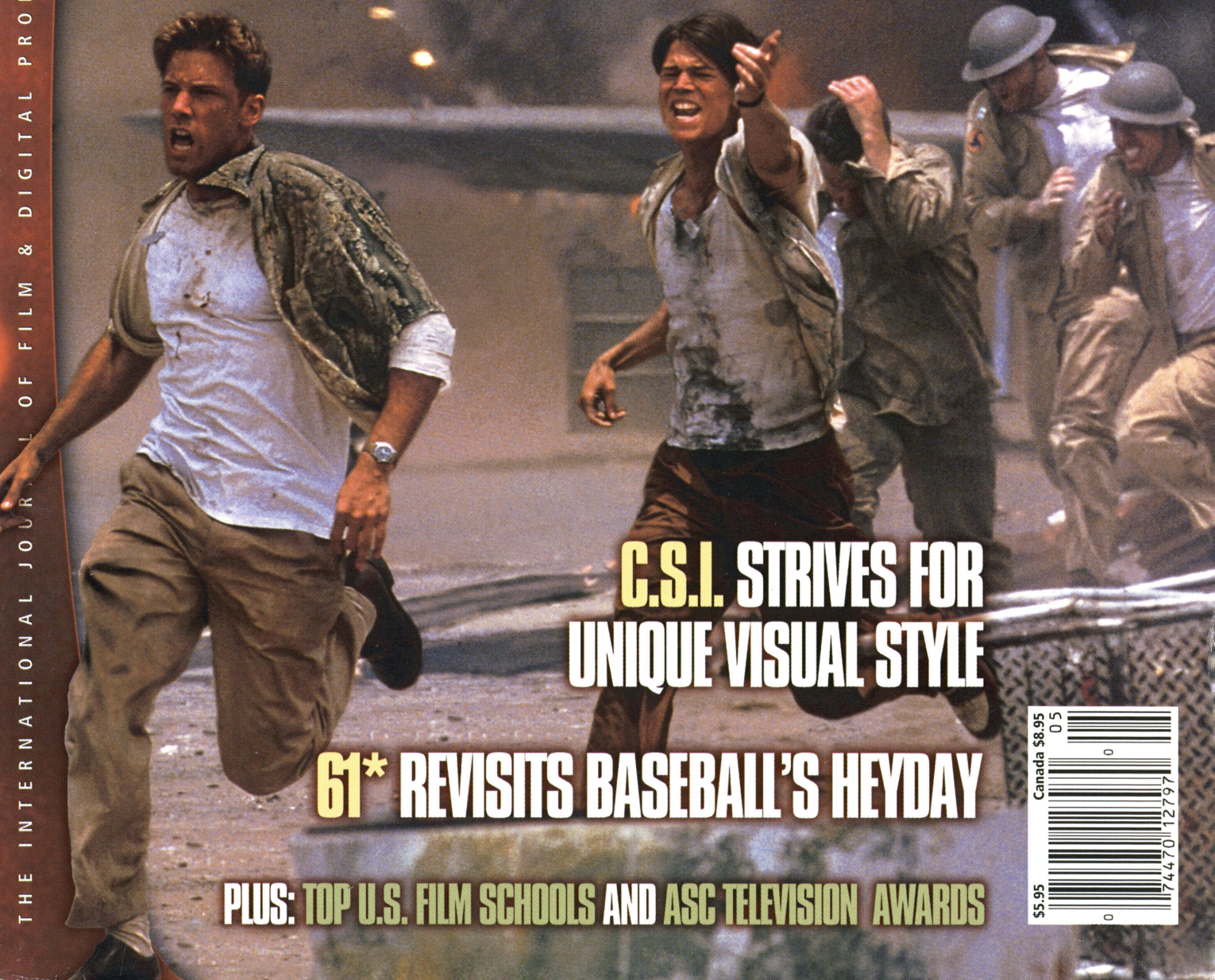


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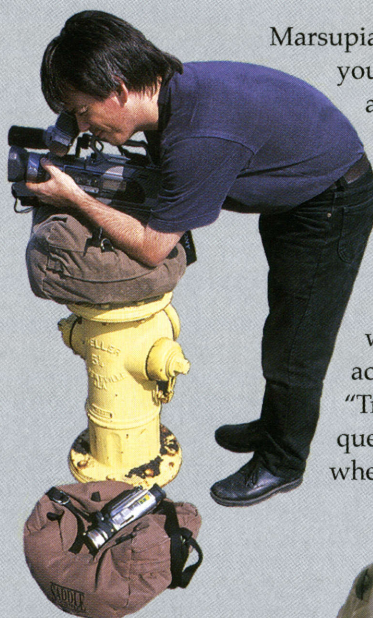


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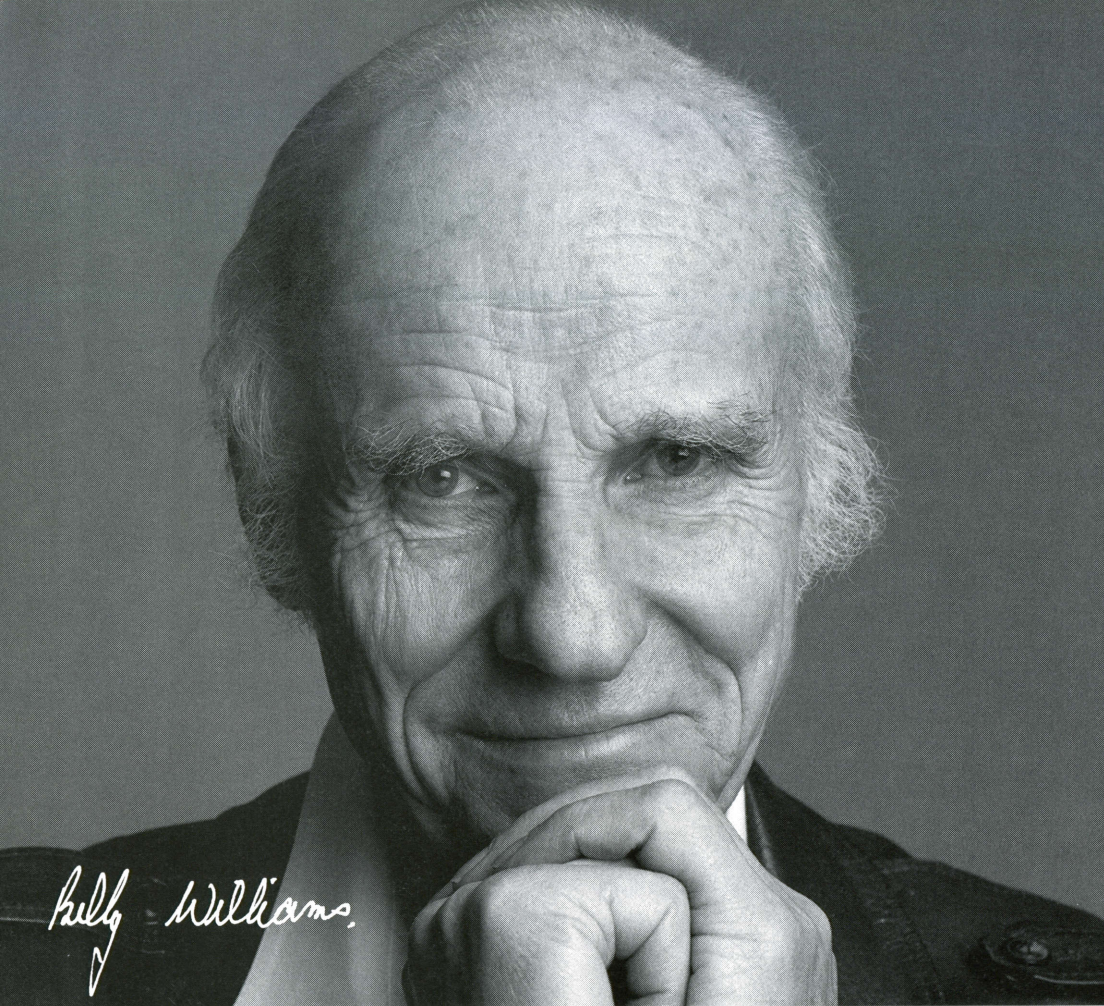
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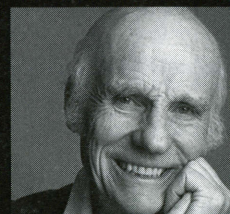
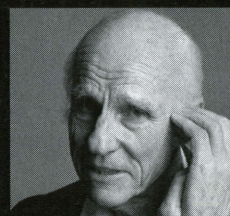
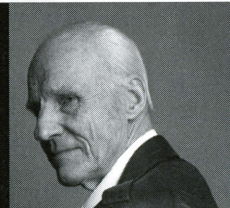
Billy Williams

BILLY WILLIAMS, BSC

ON FILM

"Much of the skill and expertise required by the cinematographer is gained through experiences. Fortunately, I had been immersed in filmmaking all my life. The opportunity I had to work on black-and-white documentaries and commercials was a great learning advantage. If you study paintings by the masters, although they are in color, you find that the artists used light and shadow to separate figures from the background. Black and white has a more interesting, almost three dimensional, perspective that allows the emphasis to be on what you want an audience to see. The actors' performances should always be the most important. As a cinematographer, if you can enhance that performance, then you are making a contribution to the picture. The films I am happiest with are those in which everything has come together—the script, the cast, the director, editor and designers. It takes a team to bring wholeness and unity to a film."

Billy Williams, BSC earned an Oscar® for *Gandhi* and other nominations for *On Golden Pond* and *Women in Love*. His other credits include *Sunday Bloody Sunday*, *The Wind and the Lion*, *Voyage of the Damned*, *Eagle's Wing*, *Saturn 3*, *The Manhattan Project*, *Dreamchild*, and *Suspect*. He has received the CamerImage Career Achievement Award and the American Society of Cinematographers International Achievement Award.

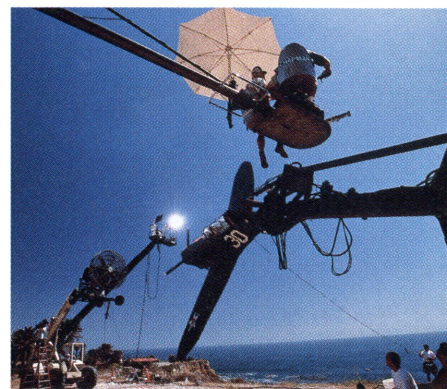


American Cinematographer

The International Journal of Film & Digital Production Techniques

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On Our Cover: U.S. Army Air Corps pilots Rafe McCawley (Ben Affleck) and Danny Walker (Josh Hartnett) scramble amid the havoc wreaked by a Japanese ambush in *Pearl Harbor*, an epic World War II drama directed by Michael Bay and shot by John Schwartzman, ASC (photo by Andrew Cooper, SMPSP, courtesy of Touchstone Pictures and Jerry Bruckheimer, Inc.).

Contributing Writers:
 Stephanie Argy
 Wonsun Choi
 Simon Gray
 David Heuring
 Jay Holben
 Lucy Nicholson
 David Wiener

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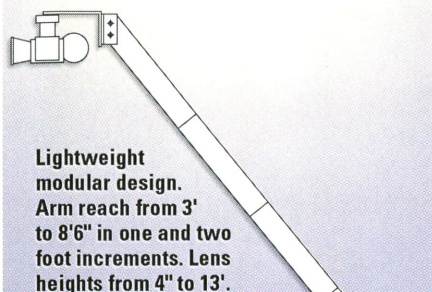


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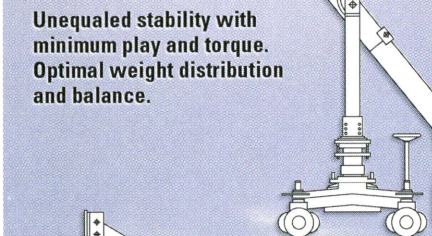
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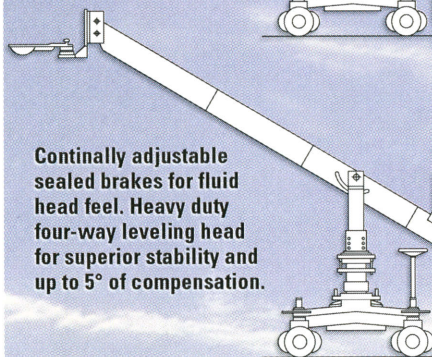
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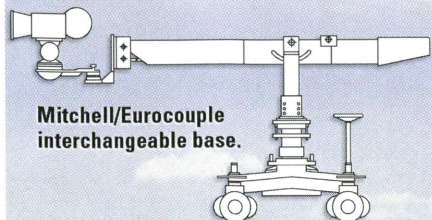
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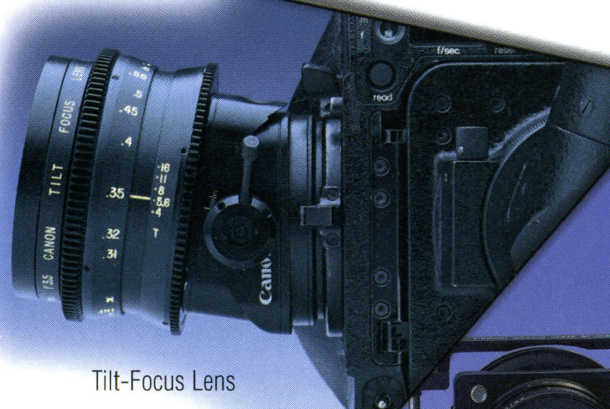


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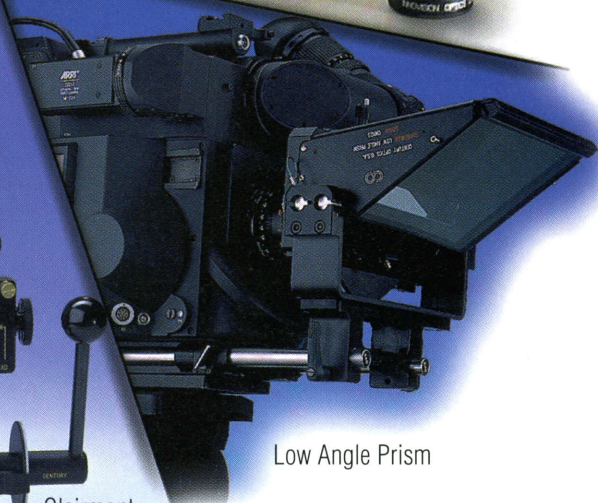


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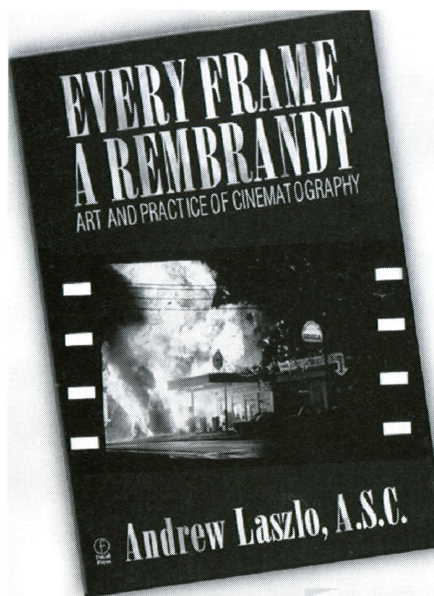
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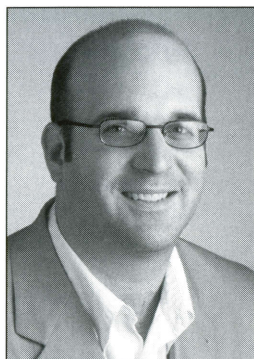
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Editor's Note



When a movie is produced by Jerry Bruckheimer, directed by Michael Bay and shot by John Schwartzman, ASC, you know it's going to be BIG. The trio's latest effort, *Pearl Harbor*, is certainly an epic, boasting a scope and sweep that should encourage viewers to seek out the tallest and widest screen in town. *AC* dispatched two seasoned scribes to cover the film's spectacular cinematography: Christopher Probst staked out the first unit ("One Nation, Under Siege," page 36), while Ron Magid aimed his sights on the show's extensive aerial work ("Earning Their Wings," page 50). We'll also be revis-

iting the production in our upcoming August visual-effects issue.

Of course, some of our readers are still dreaming about working on the set of a big-budget blockbuster; for those of you who are just starting out behind the camera, this issue surveys some of the nation's top film schools ("Learning By Doing," page 96). Although our roundup couldn't possibly include every program in the country, the courses we've covered are all top-notch.

This month's other special focus is postproduction. In our major feature on the topic, Roy Wagner, ASC recounts his use of the "digital darkroom" to lend a unique look to the first season of the new hit television series *CSI* ("Searching for Clues," page 58). Production Slate (page 18) offers further insights on post work from cinematographers Ericson Core (*The Fast and the Furious*) and Mark Wareham, ACS (TV's *Beastmaster*).

Spring marks the start of the major-league baseball season, so we quizzed Haskell Wexler, ASC about the making of the HBO telefilm *61**, directed by hardball enthusiast Billy Crystal. As a Chicago native, Wexler is a confirmed Cubs fan, but he brought a keen eye to the true story of New York Yankee Roger Maris's 1961 attempt to break Babe Ruth's single-season home-run record ("A Blast From Baseball's Past," page 104).

Fine television work is also spotlighted in our piece on this year's ASC Award winners and nominees for TV programming ("Television's Top Guns," page 66). Those of you who couldn't make the ceremony can peruse our annual pictorial spread ("Tripping the Light Fantastic," page 89), which provides some of the event's flavor — albeit without the filet mignon or Francis Coppola's wine.

Sincerely,

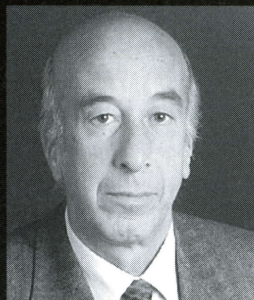
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The Post Process

Crest National Celebrates 40th Year

by Debra Kaufman

The postproduction industry is always in flux, but Crest National in Hollywood, now celebrating its 40th year, is clearly an exemplar of what to do right. Located in five buildings totaling 150,000 square feet, with 325 employees, Crest National has focused on several "niche" markets, providing those markets with top-of-the-line services and equipment. For the DVD market, Crest National not only takes care of compression, authoring and graphic design, but also houses a full-fledged DVD optical-disc-mastering and manufacturing plant.

President Ron Stein reports that the facility produces 250,000 discs daily. "We started thinking about DVD in 1994 and got involved early on with compression, beta-testing products from Minerva and Sonic Solutions," he explains. "We believed, because of our work with laserdiscs, that this would take off. We're always evolving with the needs of our clients."

Evolving with their clients' needs is a mantra that's led Crest National to offer other specialties. In addition to a thriving film lab, it's the only facility in town to offer real-time telecine transfers for 65/70mm and other large-format (LF) films. Crest maintains a stable of free-lance translators to create foreign-language versions of films, and houses specialized equipment for digitally restoring film. The facility also maintains suites for standard telecine, editing and audio. However, Stein insists that Crest National's success is really "due to the rank and file, the people who work for the company."

The list of "old-timers" proves his point: co-founder Jeanne Stein still shows up for work every day, vice president of engineering Jon Truckenmiller

has been with the company for 26 years, film lab manager Jim Glougie has been there for 35, videotape operations manager Jim Lichnerovich for 20, and video operations director Mark Winkelman for 15.

Crest National began in 1961 as Crest Film Labs. It was founded by current president Ron Stein's parents: Maurice Mitchell Stein, a former color timer and camera-store owner, and his wife Jeanne. The "Crest" part of the name indicated what they wanted to be: a boutique that was at the top of the technological wave. The film lab, housed in a historic building at Seward and Santa Monica Boulevard, specialized in black-and-white 16mm and 35mm trailers and 16mm spots, eventually segueing into processing and printing color. Their core markets were educational/documentary films, low-budget features and television promo spots, which at the time ran as film on telecine chains.

By 1976, Crest was confronting its first technological hurdle: TV promos were going to videotape, and the company was left out of the loop. In response, Crest brought in video engineer Truckenmiller, bought 2" quad and 1" Type A videotape machines, and found themselves in the video postproduction business. Studios still required film prints for foreign television release, though, so Truckenmiller was charged with finding a way to transfer video to film. He installed the highly modified Triniscope system, making Crest one of two Hollywood facilities capable of transferring video to film. Among their major TV jobs were transferring all episodes of *All in the Family*, *The Jeffersons* and *Barney Miller*.

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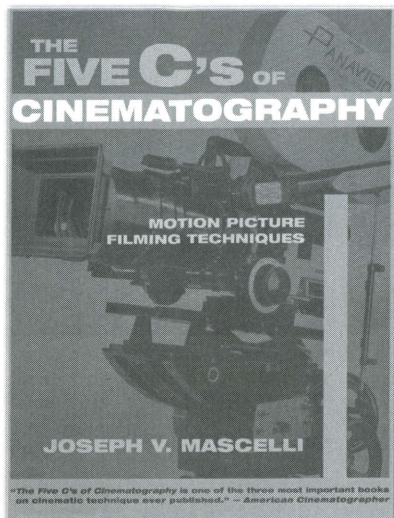
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"Film-to-tape was a natural next business," Stein recalls. "We decided to get into film transfers of television shows, going to 1-inch tape to cut for promos." Crest National installed an early state-of-the-art film chain, providing one-light transfers to quad, 1" and 3/4" cassette — all with the same timecode, a new feature in video and video editing. For this early telecine, Truckenmiller created an electronic liquid gate (ELG) to get rid of grease pencil from the workprint, dirt and other gunk as the film passed through the gate. It was the first of many technological inventions that would set the facility apart.

With the advent of home video, Crest National jumped into the game, buying an early serial number Rank Cintel Mark III in 1979. At that time, transfers were made with composite prints; Crest National, with MGM, was the first to begin using IP and negatives to transfer film to tape, using the original negative to transfer *Gigi* in CinemaScope in 1981.

Since there's no soundtrack on negatives, Crest National added six-track dubbers, becoming the first video facility to work with multi-track mixdowns. By 1982, Rank developed a telecine capable of NTSC and PAL transfers, and the home-video market exploded. With a full complement of NTSC/PAL Ranks, Crest National transferred a number of classic films for the international market, including *2001: A Space Odyssey*, *Dr. Zhivago*, *Gone With the Wind*, *The Agony and the Ecstasy* and *Mutiny on the Bounty*.

Meanwhile, the film lab was going strong. Another of Crest's niche markets was "airline entertainment," providing 16mm prints before switching with their clients to Super 8mm and, by 1978, 3/4" pneumatic. Stein could see that airlines would soon switch to 1/2" tape, and to accommodate these long-time clients, he installed 100 Betamax and 600 JVC VHS duplicators and got into the duplication business. By 1988, in an effort to provide all of the services the airlines needed, Crest National had also added Video 8, then Hi8 and digital editing, and began hiring translators for foreign-airline tape preparation.

Crest National's next engineering feat was telecine transfer for LF cinema. Sparked by a request to transfer *Heaven's Gate* (a job that never happened), Stein realized that growth in the special-venue, LF film industry meant that there was a market for large-format dailies. Truckenmiller therefore constructed a specialized telecine for LF films, and the unit remains the only one in the world that transfers 15-perf (as well as other large film formats). In 1996, Crest added a high-resolution enhancement to its UltraScan system, and also worked with Eastman Kodak to create a unique keycode for 65mm film.

Crest National continues to evolve. Most recently, the facility has invested in Cineglyph, a hi-def telecine from DAV that Truckenmiller describes as a scanner-based system with rock-solid stability and great pictures. They're also beta-testing an LF Cineglyph for 65mm, hi-def and VistaVision transfers. Crest recently acquired Digital Studios Group, a company specializing in compression authoring for mid-range indie productions. In the realm of film restoration, they have also created a Cinerama screening room. "This expands our ability to handle the entire range of the film market," Stein explains.

Next on tap is a commitment to high-quality video-to-film transfers, using the Arrilaser as the front end, with Crest's lab processing the film. "We're streamlining it to be as inexpensive as possible," promises Stein, who notes that the system can handle any video or data format, from digital video to 24p HD. The Internet is also on Crest's radar screen; it has invested in the broadband search engine Rampt, and is looking at streaming-video solutions.

Evolving with customers' needs and never standing still have been Crest National's main strategies, and staying on the cutting edge hasn't dampened the group's enthusiasm. Referring to the early days of video post, Stein concludes, "Postproduction was fun back then, and it's even more so now, because modern technologies allow you so many additional ways to innovate."

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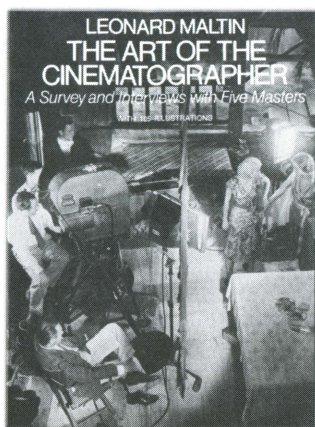
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DVD Playback

by Chris Pizzello

Ben-Hur (1959)
2.76:1 (16x9 Enhanced),
Dolby Digital 5.1
Warner Home Video, \$24.98

Movies don't come any bigger than *Ben-Hur*, director William Wyler's epic to end all epics. While undeniably dated in spots, this tale of Jewish nobleman Judah Ben-Hur (a rugged Charlton Heston) and his spiritual redemption in Ancient Rome still holds up today.

The \$15 million blockbuster remains an awesome, one-of-a-kind visual spectacle, all the more impressive for the fact that it was mostly pulled off with blood, sweat and tears, rather than today's ubiquitous CGI augmentation. Indeed, a few of Oscar-winning cinematographer Robert Surtees, ASC's panoramic views of the Roman Empire (occasionally filled out with masterful matte paintings by Matthew Yuricich) are so convincing that they inspire the viewer to hit the pause button to study them like paintings. *Ben-Hur* is one of two films (the other being *Raintree County*) originally photographed in MGM Camera 65, the widest aspect ratio ever used theatrically. Needless to say, the format's unusual dimensions resulted in some absolutely criminal cropping of the film's legendary chariot race in full-frame television versions over the years; this disc restores the film to its original, widescreen glory. On a regular TV, however, the 2.76:1 format results in a relatively small image and distractingly huge black bars at the top and bottom of the screen.

Ben-Hur has been given a very respectable transfer to DVD with rich, warm colors, excellent sharpness and an admirable lack of age artifacts considering that the film is more than 40 years old. Its age is apparent mostly in scenes shot predominantly in shadow, such as

the Valley of the Lepers sequence, when there is considerable flickering in the black areas of the caves.

Extras include a rather spare commentary from Heston, but the long gaps on the track have been cleverly overcome by an onscreen prompt that reminds viewers to hit the chapter button to jump to the actor's next comment. Also featured is a making-of documentary that delves into the fascinating history of the story (the unapproved attempt to transfer the story to film for the first time in 1907 resulted in the modern concept of copyright protection for written works made into films), and also debunks some of the myths surrounding the production. The principals agree, however, that the overwhelming stress of making *Ben-Hur*—a project MGM was counting on to save the studio from bankruptcy—drove producer Sam Zimbalist to an early grave while the movie was still in production.

Elsewhere on the DVD are a gallery of still photos, a series of trailers and some very amusing screen tests (including one featuring the toga-clad Cesare Danova and Leslie Nielsen as, respectively, Ben-Hur and Messala) that demonstrate how crucial Heston was to the project's ultimate success.

Manhunter (1986)
Limited Edition
1.85:1 (16x9 Enhanced),
Dolby Digital 5.1
Anchor Bay Entertainment, \$39.98

Jaded horror buffs who always found *The Silence of the Lambs* more of an Anthony Hopkins showcase than a truly disturbing serial killer tale are well advised to take a look at this early, underrated Michael Mann film, which presents an icy, cerebral and altogether unsettling take on *Red Dragon*, the first



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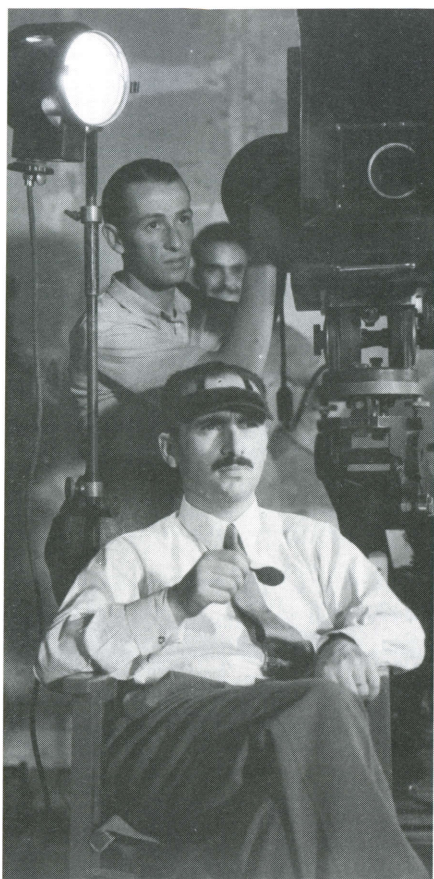
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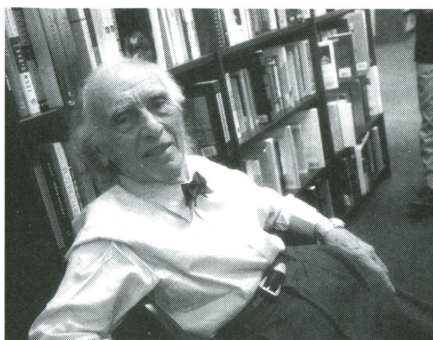
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entry in novelist Thomas Harris's Hannibal Lecter series.

A cleverly compiled, 24-page collector's booklet called *The Manhunter Files* (contained in a manila envelope stamped "Confidential") contains a persuasive essay by Andy Black, who maintains that Mann's film should be the one regarded as the modern classic. Stylistically, *Manhunter* is a stunner; in the first of their four collaborations, Mann and cinematographer Dante Spinotti, ASC use a variety of gelled lights and oddly threatening visual compositions to put the viewer on edge from the outset. In one interesting scene, FBI investigator Will Graham (William Petersen) and Lecter meet face-to-face at the deranged doctor's prison cell. Mann carefully matches the compositions of each shot to convey the similarities between the serial killer and the "manhunter" who finally tracked him down.

The limited-edition DVD contains both a crisp, sharply detailed transfer of the film's theatrical version, as well as a second disc featuring Mann's director's cut. Unfortunately, this new cut is marred by horrible, sub-VHS visual quality. Because it adds only a few minutes of footage, the extra disc is recommended only to Mann completists; a less expensive DVD containing the theatrically released version of the film is also available, and it features most of the same extras. These include an excellent featurette of particular interest to *AC* readers: "The *Manhunter* Look," a 10-minute interview with Spinotti covering the visual textures he lent to the film, and "Inside *Manhunter*," a 20-minute reminiscence on the film with cast members Petersen, Brian Cox, Joan Allen and Tom Noonan. Unfortunately, Mann himself is a no-show on the disc.

Glory (1989)

1.85:1 and Full-Frame,
Dolby Surround 2.0 and
Dolby Digital 5.1
Columbia TriStar Home Video,
\$29.95

This new DVD edition of the Civil War epic *Glory* introduces "picture-in-

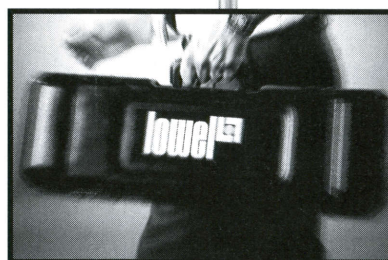
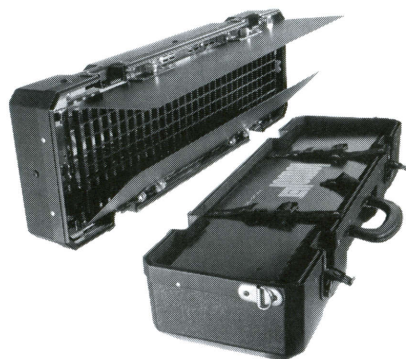
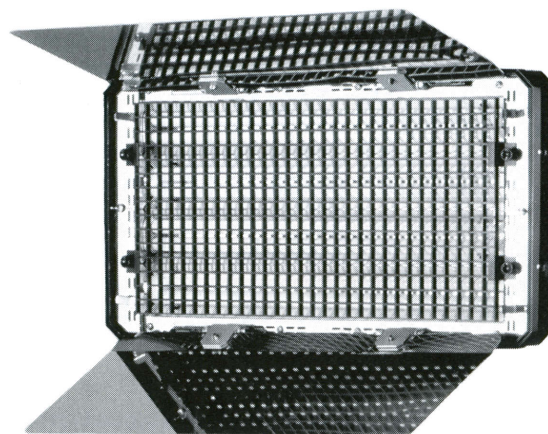
picture" video, an interesting twist to the concept of DVD audio commentaries. As the viewer watches the commentaries, director Ed Zwick and stars Morgan Freeman and Matthew Broderick periodically pop up in windows at the bottom of the screen and remark on the scenes. At first, this feature comes off a bit like an episode of *Mystery Science Theater* without the comedy, but it ultimately breaks down the fourth wall between the filmmakers and the viewer.

The trio reflect fondly upon their experiences making *Glory*, and the stirring and exceedingly well-acted film stands up to this classy, special-edition treatment. One would have to be hard-hearted indeed to avoid feeling a lump in the throat as the Union's all-black 54th Regiment of Massachusetts Volunteer Infantry marches to certain doom at the legendary Fort Wagner, South Carolina, battle.

Freddie Francis, BSC's Oscar-winning images are well represented with an excellent new anamorphic transfer that boasts terrific sharpness, good contrast and pleasing colors. Zwick points out in his comments that the melancholy visual mood of the film was helped inordinately by the overcast weather that the production encountered on location. The teeming battle scenes were also given a vital assist by thousands of enthusiastic Civil War re-enactors, who lent their services and technical know-how to the film for free.

Spread over two discs, *Glory* features a smorgasbord of extras. In addition to the picture-in-picture commentaries, Zwick contributes a standard, full-length audio commentary. Lending historical perspective are a pair of featurettes: the somewhat syrupy "Voices of Glory" has actors read from letters written by members of the 54th, while "The True Story of Glory Continues," narrated by Morgan Freeman, is a fine, PBS-style documentary utilizing archival Civil War photos, period illustrations and *Glory* battle scenes to document the full historical record of the 54th. Elsewhere are a few deleted scenes, the film's original featurette, theatrical trailers and talent files. ■

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Production Slate

Burning Asphalt and Magical Beasts

Set in the world of illegal street racing, *The Fast and the Furious* gave cinematographer Ericson Core a few healthy qualms. "If a project scares the hell out of me, it's worth doing," Core says.



Speed Demons

by Stephanie Argy

Set in the world of illegal street racing, *The Fast and the Furious* introduces the audience to young men and women who take cars like Hondas and Mitsubishiis and reengineer them into racecars that go 170 mph and cover a quarter of a mile in 10 seconds. Director Rob Cohen says that in researching the film, he came to admire the multicultural, multi-ethnic world of the racers. "I love the fact that they live in a meritocracy," he says. "[The racing is] all that defines you — you were the guy who drove the fastest." To fully convey the

emotional journey of the film's characters, Cohen had to find a way to recreate the intense racing experience. "The quest was for speed as it's never been portrayed before," he says. "The answer wasn't undercranking, but [rather] to come up with a new camera attitude."

Cohen approached cinematographer Ericson Core and offered him the project. Though impressed by Cohen's desire to push the edge visually and thematically, Core was concerned that the director's ambitious plans could not be pulled off within the project's relatively limited schedule and budget. But that made the movie even more appealing, he says. "If a project scares the hell

out of me, it's worth doing," Core says.

In the story, the cars are everything to their owners, and Cohen wanted the vehicles to shine for the audience in the same way. Yet neither Cohen nor Core wanted to make a movie that looked like a car commercial, with big soft lights illuminating the vehicles. "We photographed the cars like the actors — a little gritty and very realistic," says Cohen.

Cohen and Core worked with production designer Waldemar Kalinowski to enhance the cars' colors by shooting them against backgrounds that were as colorless as possible, a look partly inspired by the work of photogra-

Photos by Bob Marshak, courtesy of Universal Studios, and Mike Wassel, courtesy of Illusion Arts.



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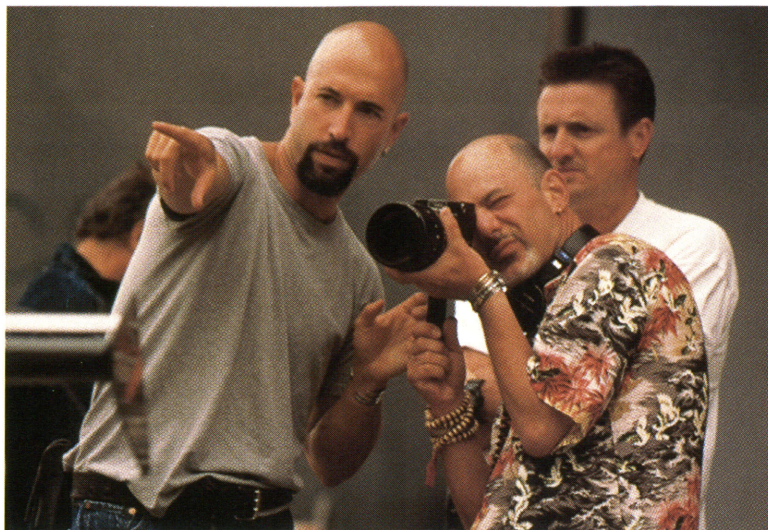
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Above: Core (left) and director Rob Cohen eye an upcoming shot. Below: The film's characters include (from left) Vince (Matt Shulze), Letty (Michelle Rodriguez), Dominic (Vin Diesel), Brian (Paul Walker), Leon (Johnny Strong), Mia (Jordana Brewster), Johnny (Rick Yune) and Jesse (Chad Lindberg).

pher William Eggleston. Locations were chosen for their lack of color, and if necessary, buildings were repainted and colorful signs taken down. "Everything we could do to desaturate [the environment], we did," says Core. "The only place color existed was in the cars."

Core increased the desaturation — and played up the smoggy, brownish side of Los Angeles — by shooting all of the daylight sequences with a Tobacco 1 filter. For night scenes, when he needed more stop, he used an 812 warming filter. His main stocks were Kodak EXR 5245 for daylight exteriors, Vision 250D 5246 for daylight interiors and Vision 500T 5279 for night exteriors. Bluescreen photography was shot on Kodak SFX 200

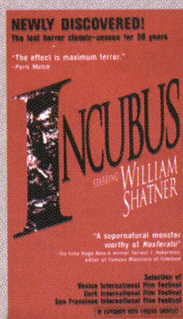
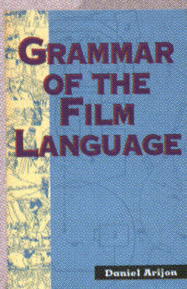
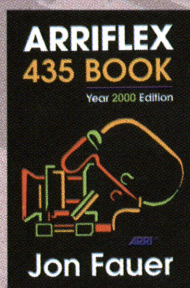
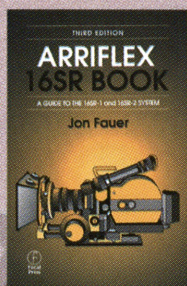
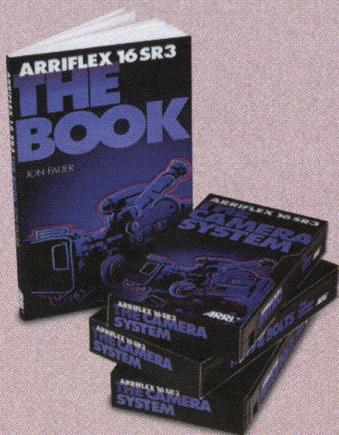
stock.

Because much of the movie involved shooting inside small cars, Core and his camera crew, led by first assistant Mike Weldon, used Moviecam equipment; a Moviecam Compact was the A camera, and a Moviecam SL was the B camera. The crew used very little Steadicam, opting instead for handheld work. "I was not interested in taking the bumps out," says Cohen. "I was interested in putting the shake in."

Sometimes, however, even handheld wasn't bumpy enough, so Core used the Image Shaker system from Clairmont Camera, which fits on the front of the camera and creates a shaky image. Core explains that the lenses produce a move-



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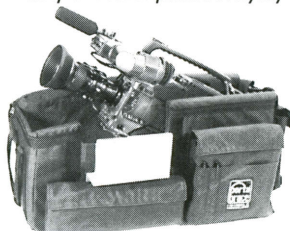
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The "Mic-Rig," created by second-unit director Mic Rodgers, enabled the filmmakers to capture close-ups of lead actors while traveling up to 100 mph. It was the only car rig they used.

ment more random and believable than that of devices that shake the entire camera; he notes that they are also easier on both the operator and the camera.

Core's lenses, mainly Zeiss Ultra-Primes, ranged from 14mm to 600mm, but as the film progressed, he and Cohen found themselves relying most often on the 32mm. The cinematographer says it's a good sign when one lens predominates in this way: "It's one of those little signposts that tells me we're establishing an aesthetic." He adds that narrowing down what the audience sees, and becoming more specific about how they see it, is part of the filmmaker's responsibility: "What you don't put into the frame is equally as important as what you do put there."

The Fast and the Furious was shot in Super 35, which Core preferred over anamorphic for several reasons. First, he says, the anamorphic format is not as good for visual-effects work, because the sharpness of the image may not be consistent across the entire frame. "With plate photography, it wreaks a little bit of havoc to deal with an image that is not the same quality from side to side," he says. In addition, several weeks of the film's 54-day shoot took place at night, so it was very important to have fast enough lenses. If he'd been working in anamorphic, Core says, he would have

had to greatly increase the lighting package to get an extra stop. Finally, Core found that the slight additional grain he picked up from working in Super 35 helped lend the imagery a bit more realism and edge.

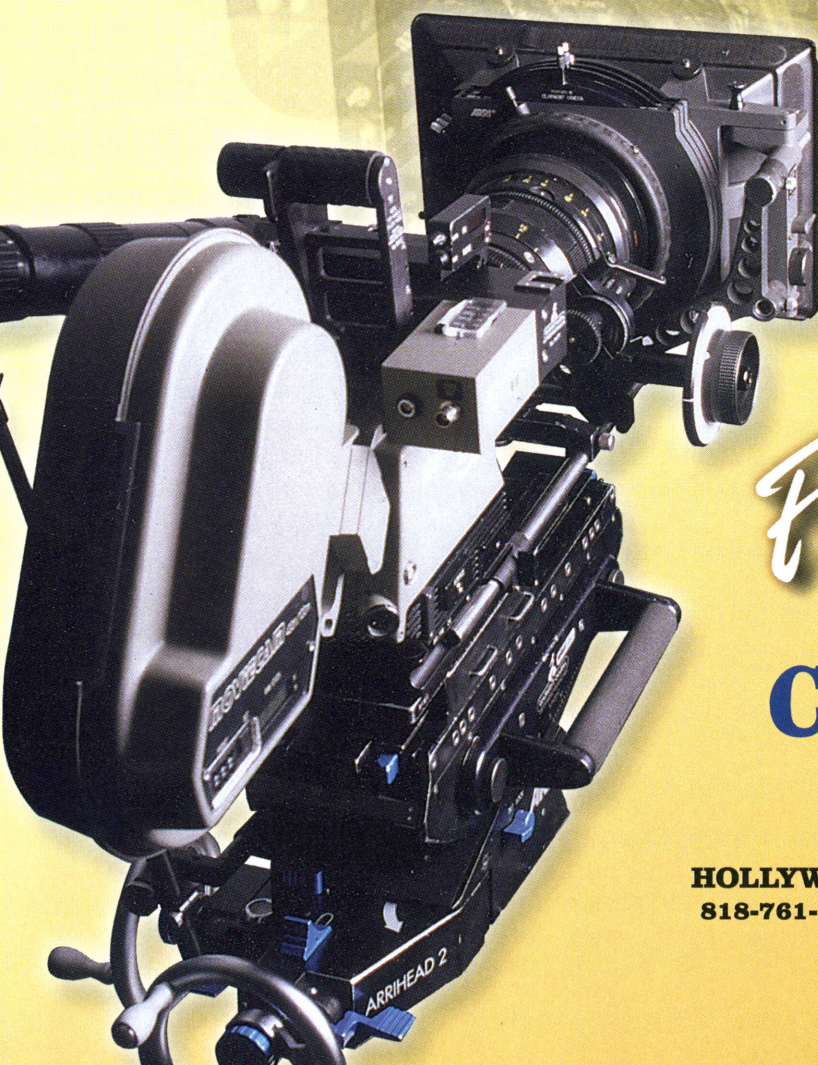
Although the filmmakers wanted a certain realism in their photography, they took a very different approach toward camera movement. Unlike the cars in *The Fast and the Furious*, which obey the laws of the physical world, the cameras move in radically new ways and go places they couldn't possibly go, especially during the first race involving the film's hero (played by Paul Walker). In the scene, Walker's character bets his pink slip to enter a race against a street-racing hero (Vin Diesel). The scene became known to the crew as "the *Das Boot* sequence" — as with the Nazi submarine in the 1981 German film, the vehicles in the race are under so much strain that their bolts begin popping out.

Cohen knew he would need visual effects to achieve three objectives: to give the extremely brief races character emphasis at crucial moments, to show dramatic details that are actually instantaneous or invisible to the eye, and to create atmospheric, continuous time transitions that did not have the typical time-lapse look. Cohen chose Illusion Arts, whose owners, Syd Dutton and Bill Taylor, ASC, had worked with the director

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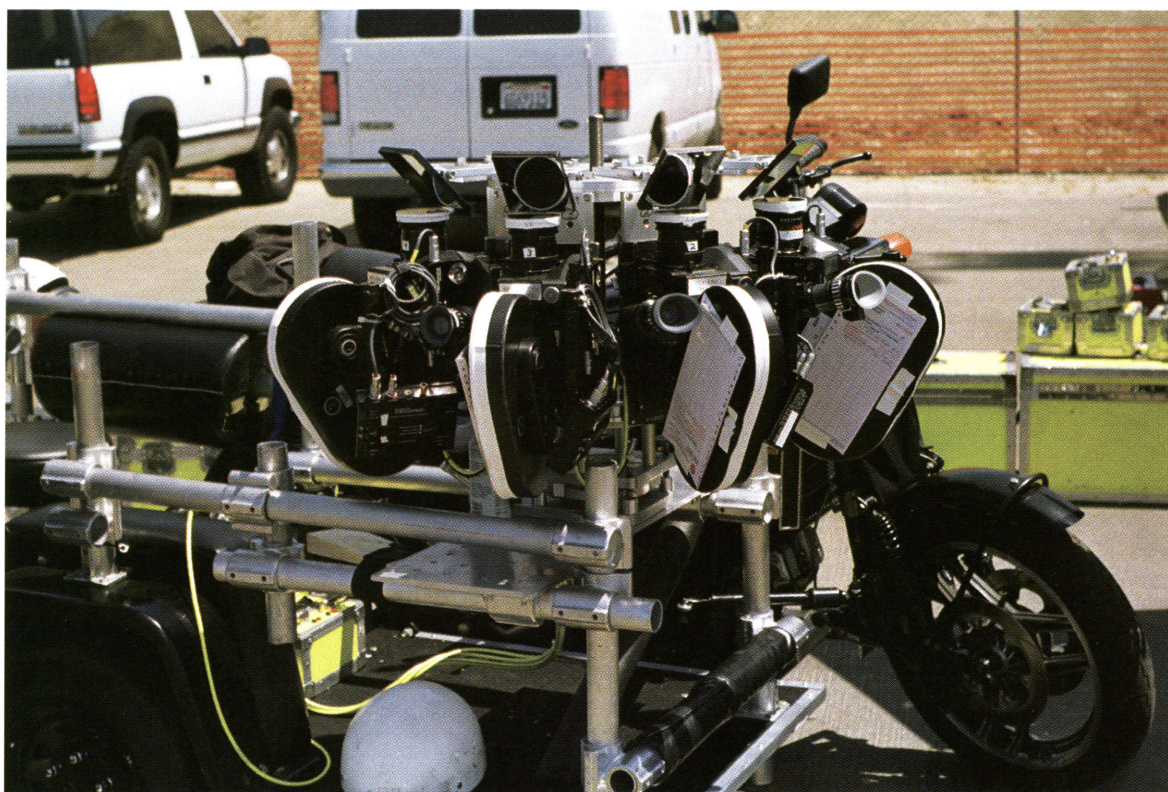
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To capture a variety of location background plates, the filmmakers employed a Circlevision rig attached to a motorcycle sidecar. These photos show the rig being readied for a test with four cameras; the rig ultimately used for the film featured six interlocked Arriflex 435s.



on four previous films. Mike Wassel, Illusion Arts' senior matte artist (and an experienced high-performance driver), became the film's visual-effects supervisor, ultimately overseeing the work of three companies.

Street racers push their cars to greater speeds by injecting nitrous oxide into the air intake. This introduces more oxygen into the cylinders for a hotter, more complete fuel burn, which in turn increases the pressure on the power

stroke. To show this happening in the most vivid way possible, Cohen wanted to take the camera into the engines of the two main cars in the race. He turned to Illusion Arts to achieve the effect. "We actually took two approaches with the two engines," says Wassel. "One engine was a completely CG creation, and the other was a real engine attached to full-size foam mock-up of the undercarriage, all shot with motion-control."

In addition, the race features other effects that seamlessly combine live action, motion-control and CG work. "Rob and Ericson felt they would have a much easier time working with the actors if all of that footage was shot against bluescreen on a stage," says Wassel.

First, however, live-action footage of the race was shot on location. The sequence takes place at night and required Core to light half a mile of street, which he did with two Night Suns, Maxi-Brutes and 20K Fresnels, positioned on 15 80' Condors and 10-12 scissor lifts. In addition, the street was lined with about 100 Pars, placed on the ground between cars to amplify the

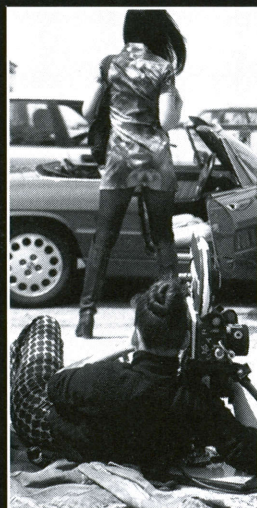
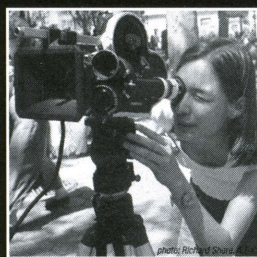
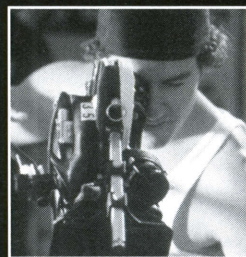
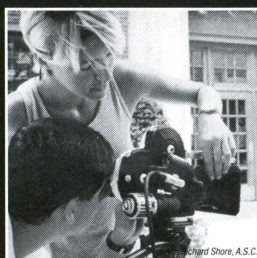
headlights pointed at the race. "Never soft, the harder the better," the cinematographer says of his lighting. Core found that when the cars passed through hard patches of light, the lighting created a strobing, picket-fence effect that provided a greater sense of speed.

The crew was only able to work on the street between 6 p.m. and 6 a.m., and the street had to be open to traffic during the rest of the day, so some of the lights had to be put away every night. These were stored in large cargo containers placed at certain corners. Core says that the lighting crew, headed by gaffer Carl Boles, spearheaded "an almost military-style operation to get our lights onto the street."

Once the live-action footage had been shot, information about the camera movement — all of it generated by freely moving cameras — had to be fed into the onstage motion-control rig. This called for intense tracking work, which Illusion Arts subcontracted to Thad Beier and Hammerhead Productions, creators of the tracking program Rastrack. "Thad was able to reproduce the camera movement," says Wassel. "That allowed us to

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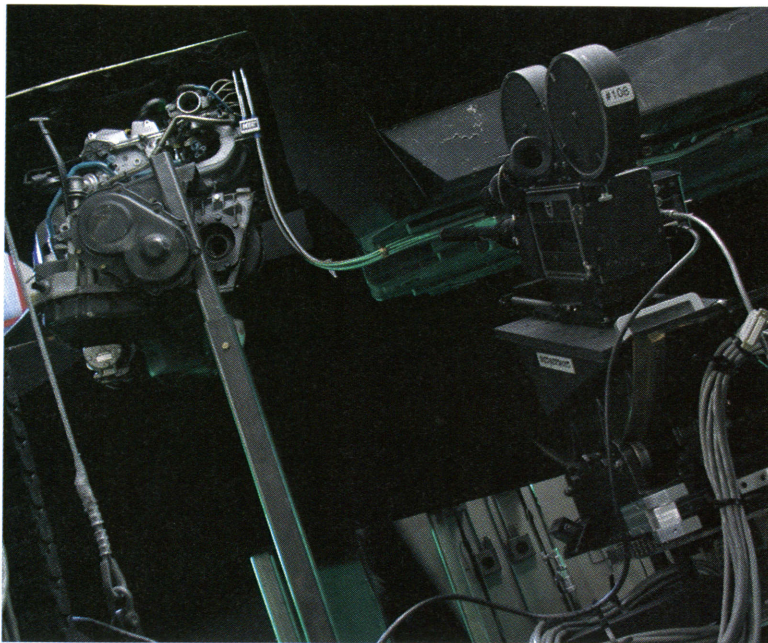
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For close-ups of the cars' engines being pushed to their limits, effects artists at Illusion Arts used a motion control rig to shoot a real engine attached to a full-size foam mock-up of the undercarriage.



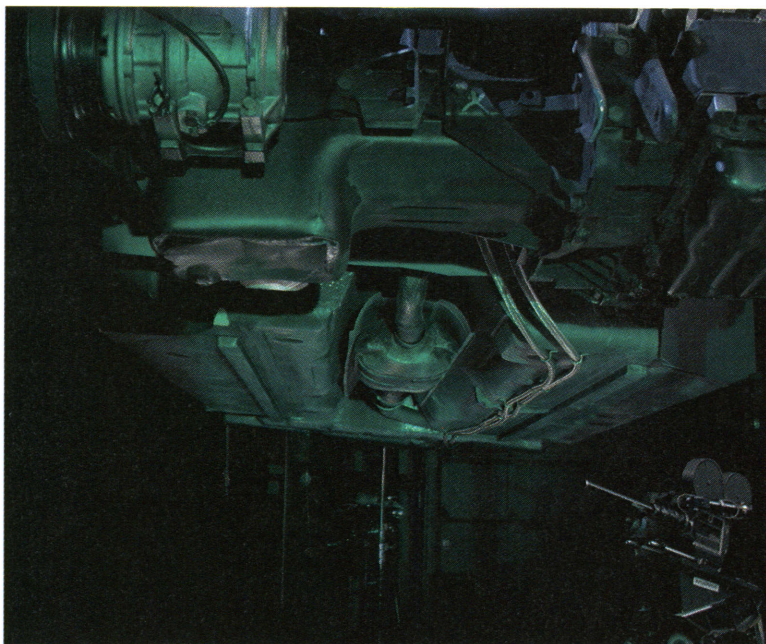
recreate the movement and photograph our main actors with the motion-control rig, then tie those two shots together, reproducing all of the perspective changes."

In one shot, the camera travels across four lanes of moving traffic, jumps through the windshield of a car, does a 180-degree spin around the driver, then goes out the back window of his car. The footage outside the car was done on location in two setups, while the portion of the shot inside the car was done

onstage using the motion-tracking information.

However, this car interior and other complex shots needed backgrounds from the location, and no one knew at the time of the shoot exactly what those backgrounds would have to be. "Rob wanted to be able to pan freely while he was inside the car," says Taylor. "That meant we couldn't commit in advance to a specific direction for the background plates."

According to Beier, the term



"virtual cinematography" has been coming into vogue for these sorts of situations, in which camera angles are constructed after the fact. In order to shoot backgrounds that would give the greatest range of possibilities later on, Wassel suggested using a multiple-camera system. The filmmakers turned to Jim Dickson and his Circlevision rig, which can accommodate up to nine cameras and shoot a 360-degree panorama.

For *The Fast and the Furious*, the Circlevision rig had six interlocked Arriflex 435s equipped with 28mm lenses. In the gap where the other three cameras would ordinarily have been, the rig was attached to a motorcycle sidecar. "With the short wheel base of the motorcycle, we were able to hide the entire vehicle in the blind spot and have a 270-degree view of the street while traveling at 60 miles per hour," says Wassel. The cameras have about five degrees of overlap, and the images from all of them are stitched together in post, creating one long, moving panorama, any portion of which can be used as a background plate.

Beier admits that there were some practical limitations to using the sidecar as the support for the rig. "The sidecar bounced a lot," he says. "It's pretty easy to stabilize, but you get a lot of motion blur, and you can't get rid of that." Also, because some of the set lighting was unavoidably in the shot, there were some large lens flares, which the Hammerhead crew eliminated as they stitched the six frames together and composited the bluescreen foregrounds.

Overall, however, the backgrounds worked well, and Dickson says they provided an economical solution. "We photographed two nights on *The Fast and the Furious*. I understand that the footage provided background for 40 special-effects shots — and we only ran the cameras 10 or 12 times." In addition to the Circlevision work, the second unit shot VistaVision plates with a fisheye lens to provide authentic reflections for windshields and CG cars.

Brad Kuehn's team at a third effects house, Digiscope, created some

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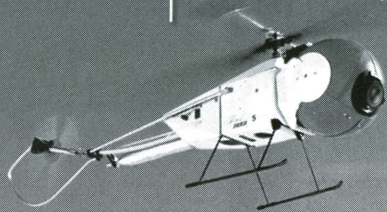
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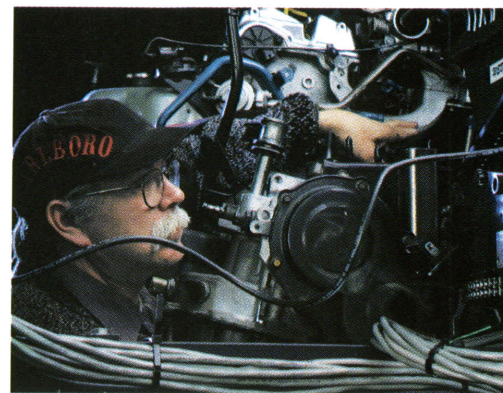
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A technician readies the motion-control rig.

difficult composites from location photography, including a breathtaking near-miss in a climactic train scene. Digiscope also increased the speed of the backgrounds in some otherwise straightforward day car interiors, while the actors remained at normal speed.

The work enhanced by the effects houses represents a very modern approach to action sequences, but *The Fast and the Furious* also includes scenes that rely upon practical, on-set effects, designed and executed by special-effects coordinator Matt Sweeney and second-unit director Mic Rodgers. In one such scene, a group of characters attempts to rob a truck filled with auto parts, and a member of the gang leaps from a car onto the truck as both travel at top speed. But the heist goes wrong, and his friends must rescue him as he dangles from the side of the semi. To give the scene maximum realism and impact, Cohen wanted his actors to drive the cars as much as possible.

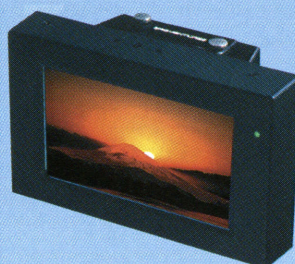
Rodgers came up with a new kind of car rig, which the company came to call the "Mic-Rig," to make the shots possible. The rig is not much wider than a car itself and is very mobile. "You can throw a 360 spin with your actor in the car," says Cohen. At times, says Core, the Mic-Rig would travel as fast as 100mph while shooting. Ultimately, he adds, it was the only car rig the company needed. "It was extraordinary for a film with this much car work that one vehicle worked so well for us." He also liked the rig's minimal crew requirements: "It didn't become the typical, overcrowded,

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camera-car parade float," he says.

Cohen, a veteran of such action movies as *The Hard Way*, which he produced, and *Daylight*, which he directed, says that most of the time, a sequence like this would shoot for about four days with the principal actors, and another 11 with the stunt team. Because the Mic-Rig allowed the actors to be at the wheel so much more, however, the ratio was reversed for *The Fast and the Furious* — there were 11 days of principal photography, and only four for second unit. Cohen was so impressed by the rig that he, Matt Sweeney and seven stuntmen bought it and have formed a company that will rent it. (The rig is already being used for *The Matrix 2* and 3.)

While *The Fast and the Furious* was a technically challenging film, Core insists that the devices and rigs were not the most critical part of the process. "For me, the most important tools are my crew — my colleagues, the people actually achieving the look," he maintains.

"Their experience and attitudes are the key. If we hadn't had such an amazing crew, we couldn't have done it."

Sony's Vialta Tames the Beast by Simon Gray

Sony Digital's first solo-produced telecine chain, the FVS1000 Vialta, has been a particularly valuable tool for cinematographer Mark Wareham, ACS on the syndicated television series *Beastmaster*. A Canadian/Australian co-production, *Beastmaster* is based upon the 1982 feature film of the same title, which was photographed by John Alcott, BSC. Wareham is no stranger to episodic television, having previously shot *The Wayne Manifesto*, *Murder Call* and *Tales of The South Seas*. While these series were somewhat reality-based, the fantasy world of *Beastmaster* offered Wareham the chance "to do something different."

This opportunity was realized when Cutting Edge Post purchased the

Vialta FVS1000 in 1999 to replace its overworked Rank Cintel Mark III. The time between installation and operation was short, by necessity rather than choice. Senior colorist Eric Whipp recalls that "the Vialta arrived with a da Vinci 2K desk on a weekend. I had an introduction to the machine on a Sunday afternoon, and by Monday morning I was grading a new episode of *Beastmaster*."

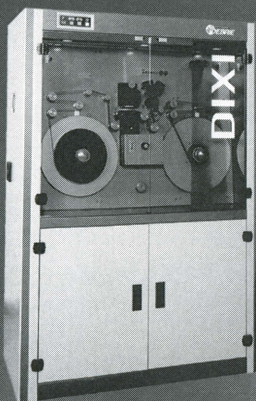
The immediate ancestor of the High-Definition TeleScanner, the FVS1000 Vialta is a full-frame array, CCD-based machine that can be run in either high- or standard-definition mode. Michael Burton, facilities manager at Cutting Edge Post, explains the rationale behind the purchase: "While CRT [cathode-ray tube] technology is very, very good, and the pictures out of the latest Cintel machines are excellent, we feel that tube technology has peaked and that products such as the Vialta and Shadow are at the beginning of their potential. There are [other benefits,] such as lower operational costs and ease of



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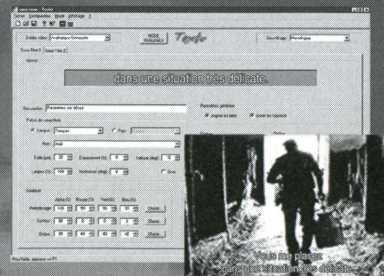


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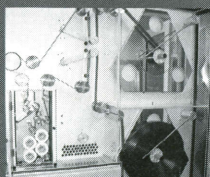


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maintenance."

Burton adds that "the entire 'front end' of the Vialta's system is optical. There's a Xenon lamp that goes through a set of filters that discard the infrared and ultraviolet light, so that there is no possibility of damage when the light passes through the film. That light is then split up [by refractors] into RGB [red, green and blue spectrums,] and each of these goes through a series of high-speed electronic shutters. The primary color-correction is done by opening and closing these shutters optically, not electronically, avoiding the problem of introducing noise into the images."

Because the Vialta scans the full frame, it prevents aliasing and noise, problems that have previously necessitated the addition of the Scandal and Twigi systems. Scanning the full frame also affects specific aspects of the image, Whipp points out. "In a single line-array scan, you have to scan 1080 individual lines [in HD mode] to make up one frame. With the Vialta, the film is



"The Last Unicorn," an episode of *Beastmaster* recently nominated for an Australian Film Institute Award for Best Cinematography, marked cinematographer Mark Wareham, ACS's first use of filtration in the Sony FVS1000 Vialta telecine. The syndicated TV series is a Canadian/Australian co-production shot in Australia.

moved into position and held still, and it can sit there for about 1080 times longer on the CCD block. [As a result,] highlights tend to be very soft and very clear, much

like how you see film projected."

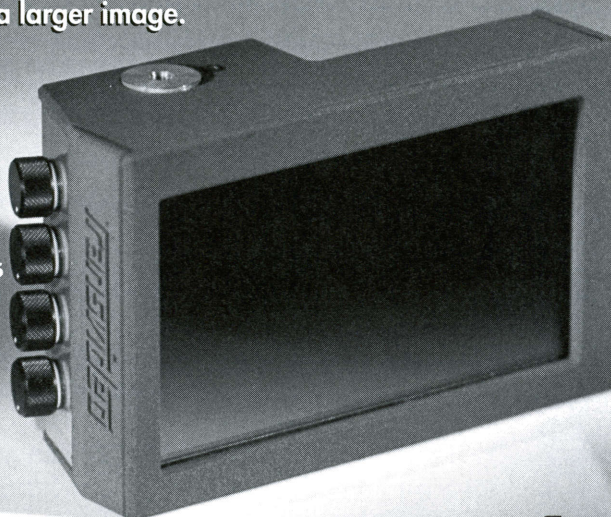
Naturally, this characteristic has impacted Wareham's approach to lighting *Beastmaster*. The first thing the cine-

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The Beastmaster, Dar (Daniel Goddard), takes a break from his heroic duties.

matographer noticed was that he had to be careful not to overlight. "Because the FVS1000 renders contrast very close to that of actual film, with a lot of detail in the shadow areas, I've stopped using backlights and kickers and have moved toward a less 'lit' style," he explains. "The other thing I've noticed is that the Vialta keeps overexposed areas very clean and noise-free."

The pristine rendition of high-lights has allowed Wareham to push the shoulder of the negative's curve. "While shooting interiors, I like to bring hot light through the windows and make that play with the darkness in the corners of the room. For one scene set in the interior of a yurt [a Mongolian, tent-like abode], I had a 12K HMI bounced into a mirror and punching straight down through the hole in the roof, very much like the 'halo' look used by Robert Richardson [ASC]. The beam sat at f22, and the fill, at about f1.4, was provided from the light bounced off the floor. I was shooting that scene at about f4, so the actors were five stops over when they were under the hot light and three stops under on the fill."

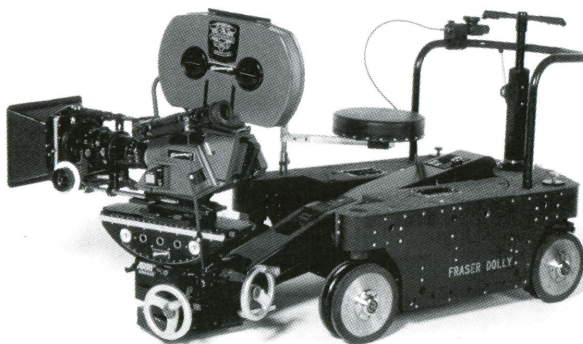
The Vialta's ability to render clear, soft highlights has proven to be a real advantage for daytime exteriors, which are shot on location in the rainforest of the Gold Coast Hinterland. While the



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canopy of trees means that Wareham has an ambience of f2.4 with Kodak Vision 250D 3-perf stock, the sun often breaks through the trees, creating high-lights of f32. However, Wareham can maintain his stop at f4, knowing that the overexposed areas of the image will keep their clarity.

Through the Vialta, Wareham has realized many of his ambitions to make the series exude "magical" qualities. Whipp recalls that "about three or four episodes into the first series, Mark and I began to realize that the exteriors needed a stronger sense of magic and fantasy. We decided to grade the foliage a minty, blue-green color, which injected the fantasy element Mark was after."

Another effect that Wareham desired was to add a silvery quality to the exterior night footage. This was achieved by using a Tiffen Black Pro-Mist on the camera and gelling the lamps with blue, which was then desaturated in the transfer, leaving a very silvery look. This technique of adding and then desaturating particular parts of the color spectrum was repeated in an episode in which sorcerers had the power to freeze people. The characters who were under this spell had to remain frozen while the sorcerers walked around them. The effect needed to be achieved quickly, and yet be convincing. Wareham decided to use uncorrected tungsten Pars to attain a hot, hard light (three stops over) on the affected characters. Coupled with the Vision 250D stock, this technique lent the actors an extremely warm, golden look. When that color was then separated from the others and desaturated as much as possible, it left a residual "pewter" look.

The episode entitled "The Last Unicorn," which was nominated for an Australian Film Institute Award for Best Cinematography, marked the first use of filtration in the Vialta. Whipp explains, "Mark was using a Black Pro-Mist in the camera, while I would use a White Pro-Mist in the Vialta. Overall, we then had the entire range softened. Because the telecine softens images differently than the camera, we achieved unique soft blacks and highlight glows. At the same

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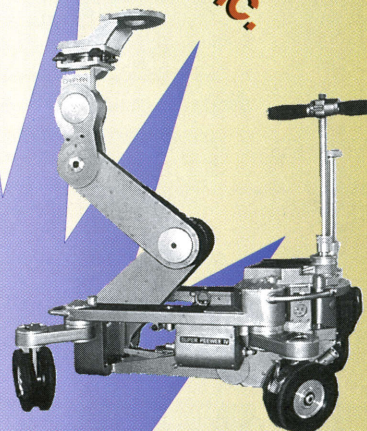
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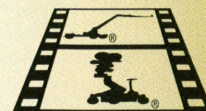
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time, all of the edges retained their definition."

For an episode that required POV shots for an apparition with red eyes, Whipp first used the de-focusing board on the da Vinci to create a soft-focus look that smeared the edges of the frame and graduated to sharp focus in the middle. The colorist then keyed out all of the bushes, trees and other foliage, changing them to a shade of red, and applied a red wash to the image. "That way, the image retained definition but had many different tones of red," Whipp explains.

Beastmaster's producers originally decided that many of the aforementioned effects would be CGI creations; however, Wareham and Whipp persuaded them that they would be able to achieve the same quality results with the DaVinci, thus providing the effects at the dailies stage and saving on postproduction costs.

When Cutting Edge Post opened its Gold Coast facility, the company needed a new telecine chain. Whipp

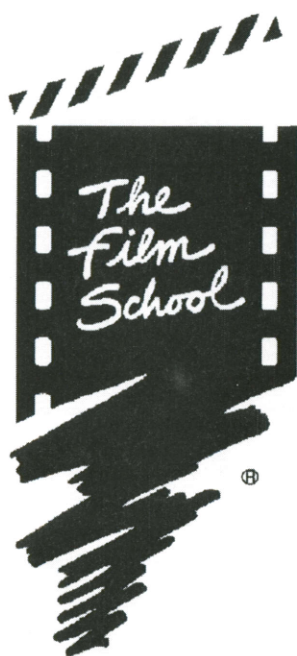
explains that "we wanted to offer a variety of machines, and we decided on the Philips Shadow — again, the first installation in the world. The reason we didn't purchase another Vialta was simply a matter of compatibility. The Cintel, now retired, was using a Pogle, which we wanted to keep using, but at that point the Vialta was not ready to work with Pogle. With the workload the company has, we couldn't afford to wait until it was."

Because *Beastmaster* was still in production when the Shadow was being installed, it was necessary to alter the machine's settings to maintain the look that the Vialta had been providing. As Whipp explains, "The Shadow gives fantastic images, [but] they were initially rather different than the established look for the series. To get [what we had achieved on the Vialta], I did a lot of image enhancement and changing of grading levels, using the setups within the machine. In the Shadow, the blacks drop a bit more quickly and the image is

a bit softer than the Vialta. Mind you, we were often putting a Pro-Mist in the Vialta to soften the image."

Wareham notes, "While the Shadow does not have the punch in the shadow areas, it handles the highlights very nicely. The Shadow is a bit softer than the Vialta, which can be better in some cases. It also prefers a stronger contrast, which in turn makes [the image] look sharper. Images through the Shadow tend to look a bit nicer when you use kickers and liners in the lighting. Overall, you need to work a bit harder to create separation in the lighting."

In addition to switching machines, the production also underwent a change of colorist. "Once the decision was made to change colorists," Whipp details, "[the new colorist] Trish Cahill and I went out on location [to visit the show]. The day we went was very overcast, but the sun kept breaking through the clouds, and Mark was constantly changing exposure as he went. It can only help to have the colorist



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see firsthand what's actually happening during the shoot, and the reasons why you're getting the footage that you do. During preproduction for the first season of *Beastmaster*, I had gone over the specific looks Mark wanted to achieve for each set. We did both camera and grading tests, first to see what we could achieve in-camera, and then to see how far we could take the look in telecine while still maintaining the schedule."

Cahill observes, "In many ways, Eric has been a translator between Mark and myself. He and Mark have worked together before, and they have a language for certain looks. For example, there were two looks that Mark dubbed 'Gladiator looks,' based upon that film's blue-toned day exteriors and warm interiors. I'm still building my relationship with Mark, but he's given me great feedback. The previous shows I've done were much more reality-based, so *Beastmaster* is an opportunity to play around a bit more. I've learned a great deal in a relatively short space of time."

New Shanghai Cinema

A new state-of-the-art cinema is opening in Shanghai, China. Called Kodak CinemaWorld, the showcase cinema is a joint partnership between the Shanghai Film and TV Group and Kodak Limited in China. Kodak CinemaWorld, located in the Xujiahui Metro Entertainment Center in the heart of the commercial district, is a multiplex with four large, wall-to-wall screens ranging in width from 32' to 38', stereo digital sound and stadium seating. The individual theaters occupy a total of about 3,500 square meters and include a freestanding cafe, concession stands, and decor that reflects the history and glamour of the art of filmmaking.

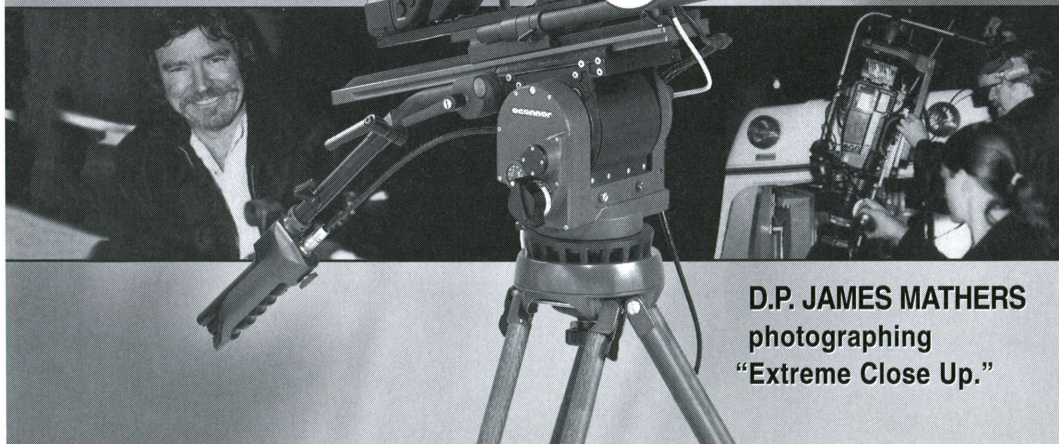
"Our primary goal is to provide audiences in Shanghai with a memorable moviegoing experience, where they can enjoy films the way they were meant to be seen and heard by the artists who created them," says Joerg Agin, president of Kodak's Entertainment Imaging Division. "It will be the first theater in China that is part of the Kodak

ScreenCheck program, which guarantees that it will consistently satisfy high standards for presentation quality."

With stadium seating, every seat has an unobstructed view of the screen, along with features such as movable armrests and cupholders. Hearing-impaired customers will find headsets available in all four theaters. The multiplex is managed by Kodak's Edman Chan, who says, "I believe this theater will become an important showcase for both imported films and motion pictures produced in China." In addition to new films, Chan says that Kodak CinemaWorld will occasionally screen classic motion pictures that haven't been seen by the current generation of young filmgoers. ■

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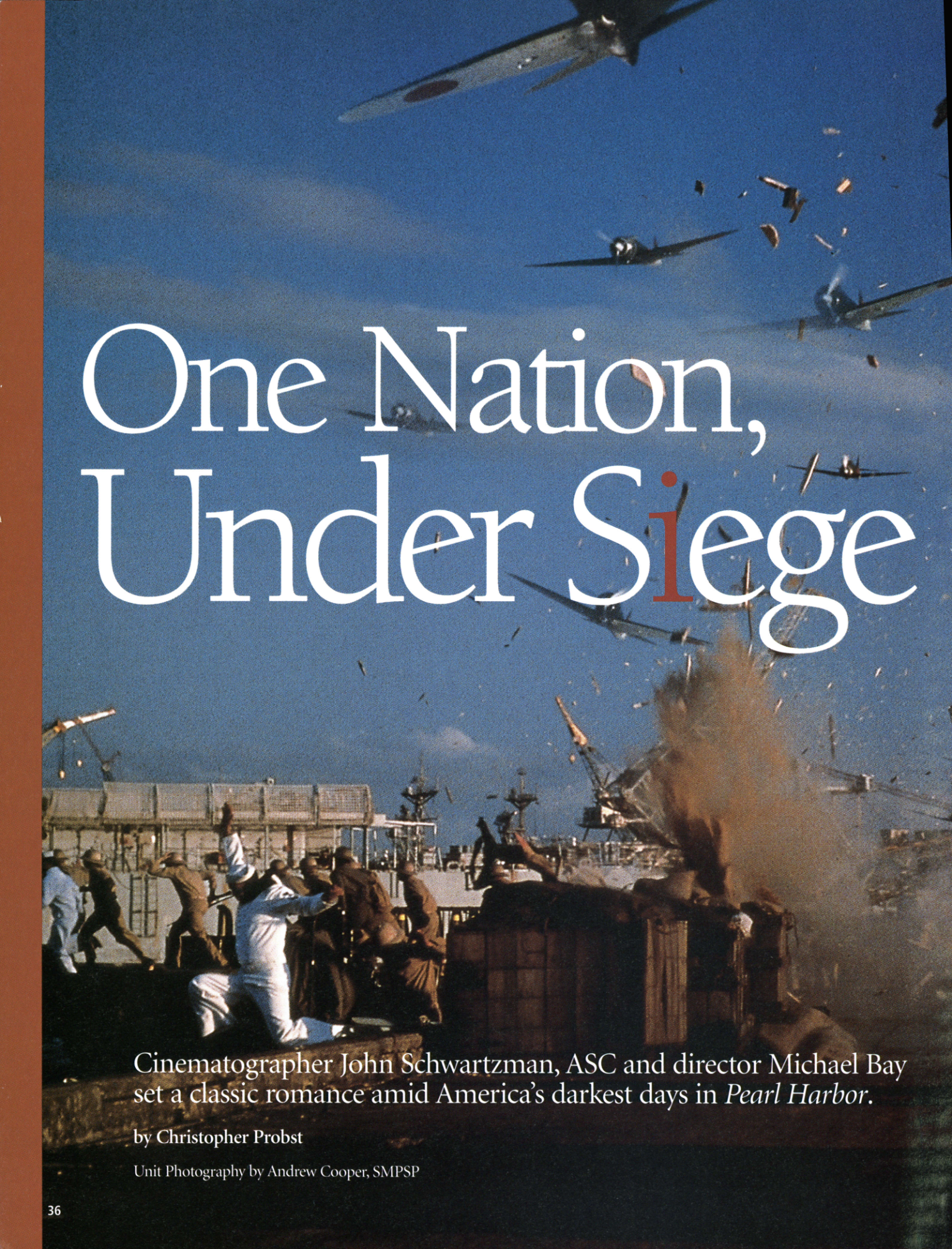
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by Christopher Probst

Unit Photography by Andrew Cooper, SMPSP



December 7, 1941, ended America's era of innocence — and forever changed our outlook on our involvement in the world — when more than 350 Japanese bombers and fighter planes launched a massive surprise attack on the U.S. armed forces at Pearl Harbor. The harrowing event crippled America's Pacific Fleet, wounded and killed thousands of soldiers and civilians, and drew us into war against Japan. "The attack on Pearl Harbor stands out as one of America's worst tragedies, but it also reminds us that we can rise from the ashes and go on to triumph," says Jerry Bruckheimer, executive producer of *Pearl Harbor*. "This film is a story of friendship and romance."

One Nation, Under Siege



Previous pages: Japanese planes attack the U.S. fleet stationed in Hawaii in *Pearl Harbor*. Careful coordination was required to execute the film's numerous explosions and aerial maneuvers. "I'm sure we'll never get credit for half of the work we did," says cinematographer John Schwartzman, ASC. "Everyone will assume it was all done by ILM." This page: Several inactive battleships from the World War II era were used in the film's harrowing attack sequence.

but overall it is a serious piece about the hearts of men and women, military and civilian, who lived through that period."

After creating a string of blockbuster films, including *Bad Boys*, *The Rock* (see AC June '96) and *Armageddon* (AC July '98), director Michael Bay was seeking to "branch out story-wise. When Disney pitched *Pearl Harbor*, I thought, 'It's a great backdrop, but who'd be crazy enough to do a movie like this? This involves blowing up a battleship fleet that doesn't exist.' Before I took on the project, I had to prove to myself that we could actually do it. I went to Hawaii and was immediately surprised at how picturesque the bases are. Most of them are still of that period and still have bullet holes in the walls. More importantly, I also saw several inactive fleet ships just sitting there."

This fortuitous discovery enabled Bay to begin visualizing what would become *Pearl Harbor*, and he promptly enlisted his longtime director of photography, John Schwartzman, ASC. The cinematographer explains, "The inactive fleet was essentially mothballed ships — 600-foot battleships from as far back as the 1940s — that the navy didn't want to spend money to tow somewhere else. They stripped them of all goods worth anything and were going to sink them as part of a program to create artificial reefs. They told us, 'You can blow these up, and as long as you don't damage the hull and sink them, you can do whatever you want to their exterior. Have fun, boys!'"

With the support of the U.S. military, the filmmakers had the means to recreate the epic scope of the Japanese aerial attack, and they

turned to Oscar-nominated screenwriter Randall Wallace (*Braveheart*) to script the details. "*Pearl Harbor* is essentially the story of two best friends, Rafe [Ben Affleck] and Danny [Josh Hartnett], who are like brothers," reveals Schwartzman. "They grew up together flying crop dusters and now have become gifted pilots in the Army [Air Corps]. At the beginning of the film, the war is going on in Europe, but America isn't involved. Rafe doesn't tell Danny that he's joined the Eagle Squadron, a voluntary group of U.S. pilots who flew with the British against the Nazis. Danny, however, finds out that he's getting shipped off to Pearl Harbor. Before they both leave, they meet Evelyn [Kate Beckinsale], a nurse who's also serving in the military, and Rafe falls in love with her."

"While Rafe is off fighting the war, we learn that he's been shot

Photos courtesy Touchstone Pictures and Jerry Bruckheimer, Inc.



down and is presumed dead," he continues. "Evelyn is sent to Pearl Harbor and ends up falling in love with Danny. But Rafe then returns, and they find themselves caught in a sort of old-fashioned love triangle. *Pearl Harbor* is really a love story — it just so happens that the second act is set against the backdrop of the Japanese attack. The bombing only comprises 35 to 40 minutes of the film."

Paying Homage

In crafting a classic Hollywood love story, Bay and Schwartzman began by discussing 1940s films and looking at still photographs from that era. "Our idea was that we were making a modern movie in 1941," Schwartzman offers. "A lot of early photo books from the war had these kinds of dye-transfer prints made from old color photographs that had

a beautiful, aquamarine, overall color palette that we liked. We wanted the love story to have a very classic, traditional feel and not be heavy-handed."

Bay adds, "Films are a way to escape, and I like to make actors look like movie stars. There are definitely moments in this film when Ben and Kate look like old-fashioned Hollywood stars."

"I also believe that people remember movies based on their emotional responses to certain shots," the director continues, "so it was important to me that we get several seminal images in the film. The kids playing baseball as the plane flies by, for example, was shot on the very first day of shooting. Those types of images are important, because everyone can immediately picture themselves playing in a Little League game."

Bay and Schwartzman began

the *Pearl Harbor* shoot with several days of "tests," which also happened to involve extras, scripted scenes, dialogue and stunts. Explains Schwartzman, "We don't shoot tests in a traditional sense. With Michael, our tests end up in the movie! We shot tests for three days before principal photography began in Hawaii. [Those tests became] relatively minor scenes and allowed us to look at the hairstyles and makeup [and make necessary adjustments]."

"I like to set the style of the movie at the very beginning of the shoot," elaborates Bay. "A movie takes on a shape and vibe in the first few weeks. Those first images you create let the crew know what type of film you're making. The first shot we photographed was a woman at her laundry line with a Japanese Zero flying right over her. For me, that shot was symbolic of the innocence

U.S. servicemen try to take cover in the water. "We realized that if we shot airplanes by themselves, no matter how many, no one would believe that they were real [because] they would look like models," Schwartzman explains. "Once we put people on the ground or in the water [in the same shot] and started flying the planes low, then you knew they were real."

One Nation, Under Siege



Above: The capsizing and sinking of the *USS Oklahoma*

was shot at Rosarito Beach Studios in Baja, Mexico, and required a massive gimbal (visible on the right). Below: *Pearl Harbor*'s love story pays homage to classical Hollywood cinema.

Schwartzman recalls, "We shot this scene at the end of the day on Kodak 5279, using two Maxi-brutes on the plane to help separate the actors from all of the flat blue ambience. If you were to turn those lights off, the image would turn to mud."

of the era we were creating, and it also showed that this was going to be a very aggressive movie."

Hewing to the style of most 1940s films, the filmmakers adopted a traditional, hard-lit look and a solidly framed compositional style. "There was a certain quality of light that I had in my mind's eye going in," says Schwartzman. "I wanted to play with a lot of hard light; I felt that was true to '40s movies. We also wanted a slightly desaturated color palette

with a lot of blues and grays. We wanted to knock the edge off the color saturation a bit; that didn't necessarily come out of what I did photographically, but rather what the art department did. The period itself helped dictate the palette — everything in that era seemed to naturally fall into a subtle, handsome style. Since that was built into the look, I didn't have to think about flashing the film or anything like that."



Chocks Away

Principal photography on *Pearl Harbor* began on April 4, 2000, and immediately jumped into the daunting attack sequences. "I told Michael that the hardest thing about shooting the film was going to be the weather in Hawaii, and it was," recalls Schwartzman. "I knew that once the attack happened, I could pour enough black smoke into the shots to get around all of the weather considerations. With the clouds moving in and out, it was very difficult to achieve any lighting continuity. Once all hell broke loose, there were a lot of tools I could throw at the inconsistent weather. On a movie this big, you cannot stop and wait for weather. It's a 35-to-40-setups-a-day slugfest, and you're trying to make each shot as great as you can. In the 100 days that we worked on *Pearl Harbor*, we shot 3,700 setups with the first unit. That averages out to more shots per day than they do on episodic TV! Needless to say, I'm a very hands-on cinematographer. I'll run with a Par can in my hand if that's what it takes, and that's because I have everyone else doing something as well."

Schwartzman's approach to the film's daylight exteriors speaks volumes about the impact a cine-

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One Nation, Under Siege



Chaos ensues during the attack. "My goal was to create a rich, colorful movie, then have everything turn almost black-and-white during the bombing," Schwartzman explains. "This was done by adding hundreds of feet of black smoke. The beauty of shooting this film was that I had contrast built in wherever I needed it — if I didn't have black smoke, I had guys covered in oil. When I couldn't control the light in a certain area, I'd say, 'Give me three guys all in oil over here.'"

matographer can have on the flow of production. "A lot of this movie plays out in daytime exteriors, and I actually did very little lighting on those exteriors," he explains. "I didn't want to lock myself into too big of a lighting setup outdoors, because we had [to work with] a lot of squibs, primer cord and black smoke — not to mention the fact that we had aircraft flying around. The secret to getting great exterior work is to pick good locations and the right time of the day to shoot them. When you do that, you barely have to do anything else.

"That's something I learned from Vittorio Storaro [ASC, AIC] on *Tucker*," adds Schwartzman, who served as a camera intern on that film. "We were shooting a scene at a racetrack and had spent most of the day just shooting little things, even though we had a lot of work to do. I kept asking Vittorio when we were going to start the day's work. He said, 'Look at how ugly it is right now! We'll start the day's work when the light is right. And when the light is right, we'll be able to move quickly.' He was absolutely right — he did the entire day's work in three hours.

"As a cinematographer," he continues, "you get paid to keep your

work consistent before the light is perfect and after the light has gone away. With exterior shooting, you have to say, 'Hey, we should shoot the wide shot last. Let's shoot the coverage first, where I can control the light much easier, and when the light gets great, we can shoot with 10 cameras and blow up five ships!' Naturally, I understand that schedules are not made solely for the convenience of cinematographers, so within that you have to become very clever in moving shots or a scene around so that you can get things to play out the way you want them to without causing anybody else major distress."

Capturing Hell

Pearl Harbor was shot in the 2.35:1 anamorphic aspect ratio, a format that Schwartzman prefers. "I used my set of Panavision C- and E-series anamorphic lenses," he says. "For the kind of work I do, Primos are too big, too heavy and have too much field curvature. I know they have a lot of contrast and people swear by them, but I swear by the C-series. I build a lot of contrast in my lighting, anyway, so I don't need the lens to do that for me."

The cinematographer also stuck to familiar territory in the form

of Panavision cameras — including several Platinums, a Panastar, a Millennium XL and a score of Eyemos — and Eastman Kodak stocks. "I use only a couple of film stocks," he notes. "It takes a long time to become comfortable with a stock, and I feel that I'm barely getting to know the ins and outs of the stocks I'm using now, so why challenge myself with a bunch of others? I feel comfortable with Vision 500T 5279, and I also like Vision 200T 5274. I used to shoot a lot of EXR 5248, but on this film, Industrial Light & Magic wanted me to shoot 74 for the digital work, so we didn't use any 48.

"Because Hawaii is so contrasty and I knew I wouldn't have a chance to light something because of a low-flying aircraft or a big explosion, I also shot a lot of day-exterior work with the Vision 320T 5277," he continues. "That was an innovation for me. Initially, using 77 didn't make any sense — 200 ASA with an 85 filter for day exteriors? — but John Bickford at Technicolor told me to try it out. The 77 wound up looking beautiful, and I absolutely fell in love with it. It has a greater latitude in both the toe and the shoulder, and I was able to hold the shadows and highlights better than [I could with]

all of the other stocks. Given the contrast and saturation of the Vision print stocks, 77 is also a wonderful partner with Vision and Vision Premier.

"All of the night scenes were shot with 79 because I'm a strong believer in shooting anamorphic lenses at a T4 or T4.5; all of your contrast and chromatic aberration problems tend to fall away once you close down a couple of stops. I always try to give myself the best image I can, and I wasn't going to sacrifice that for a slower film stock. Your image will suffer more from a wider aperture shooting with 74 at a T3.2, versus shooting with 79 at a T4.5."

Declaring War

The most talked-about aspect of *Pearl Harbor* will undoubtedly be the scenes depicting the Japanese bombardment of the unsuspecting Americans. Careful planning and coordination was required to bring all of the elements — fire, smoke, explosives, racing aircraft, and hundreds of extras and stunt performers — together into a believable depiction of the chaos that ensued on that fateful Sunday morn-

ing. "We wanted the audience to be right there in the moment, to engage them in the actual event," says Schwartzman. "We shot some 16mm, black-and-white 35mm, and even some 8mm. Those events were so large that we would set up eight or 10 main cameras, but then we'd throw in a few wild-card cameras as well. Because those shots were created in the moment, there is something real about [them]. We'd be running with Ben and Josh while there was 100 feet of primer cord going off all around us. That definitely created a heightened level of adrenaline, and it added to the film."

The scale of the battle scenes is nothing short of enormous. "We blew up 10 full-size ships on this film," boasts Schwartzman. "I think the smallest one was 600 feet long. However, we soon realized that we needed to put people into these shots to help give them a sense of scale. Four big ships moored together can start to look like models as soon as you get away from them. You have to put something in the foreground, so we had a lot of cameras on skiffs moving past soldiers.

"It was truly amazing, because

we had full-size destroyers that we could tow around as needed, and within one minute [they] could be in flames — but it literally was just one guy over there turning a propane valve on and off! It was like having a flamethrower the length of a battleship. We'd be shooting some scenes on the *USS Missouri* with airplanes flying 10 feet away from us, while a 600-foot battleship was completely engulfed in flames 100 yards away in the background. After seeing that, the Fourth of July will never be the same!"

Bay elaborates, "We did a six-ship explosion, which was probably one of the biggest explosions ever done. It can almost seem small onscreen, but we had 350 bombs going off in seven seconds, precisely timed with planes flying through the air. Doing a shot like that is terribly dangerous and always a one-time deal, so we covered it with 12 cameras on the ground, as well as some in the air. Our crew was well-oiled, though, and there weren't a lot of missteps."

Wreaking havoc in the battle scenes extended well beyond blowing up ships, however. "We shot a lot of material with a lagging shutter, in a

The Japanese commanders plan their attack. This scene was filmed inside the historic *USS Lexington* in Corpus Christi, Texas. "The room was about 40 feet below the flight deck," recalls Schwartzman, "so we had the grip crew build a truss that armed out and then dropped down 30 feet. We suspended 6K HMI Pars on a rig made of rope and pulleys that could tilt up and down as though the ship were moving with the ocean."



One Nation, Under Siege



Rafe (Ben Affleck, left) and Danny (Josh Hartnett) say their farewells.

The crew capitalized on the impressive production value of the location, Union Station in downtown Los Angeles. Says Schwartzman, "We timed our shoot so that when we were in the main room, the sun would be coming in through the windows. I added a little smoke and used an 8-by-8-foot gold reflector to create bounce fill."

way that was similar to what Janusz [Kaminski, ASC] and Steven Spielberg did on *Saving Private Ryan*," relates Schwartzman. "We watched a lot of World War II films, and in them you can see when the cameraman lost the loop in his Filmo and suddenly got this great streaking effect. We incorporated that at times, but to a lesser extent than *Private Ryan* did. I had Al Mayer, Jr. modify a Millennium XL with software so that at the push of a button, we could make the camera go out of sync. Because the transmission on the XL is electronic, we could hit a button in the midst of an explosion and suddenly have the camera go out of sync as a way of heightening the point of view.

"Additionally, we occasionally used narrower shutter angles to help heighten the action. However, we had to be conscious to not move the camera too much when we did that. We'd use it [for scenes in which] soldiers were blown out of a bunker. In those types of shots, the action happens very fast, but with a shorter exposure interval, we could get more registration of the action. Obviously, it also helps with flying debris; it's sharper, and there's less motion blur."

After completing a month of battle and location work in Hawaii, the company moved to the Los Angeles area to recreate 1940s Honolulu. "Downtown San Pedro actually looks a lot like Honolulu did in the '40s," Schwartzman says. "Because of the growth of the tourism industry, Honolulu looks completely modern now. We also shot a lot of interesting buildings; for example, the metropolitan water district repair station in La Mirada became our War Department building in the film. That location was built in the 1920s and has incredible, vaulted concrete ceilings. Michael wanted to shoot more on location in this film. He wanted the ability to go in and out of buildings and have old cars drive past a window, as opposed to blowing out a window on stage or using a TransLite."

In the aftermath of the Japanese attack, thousands of injured men and women were rushed to the base infirmary. Bay wanted viewers to experience this traumatic event through Evelyn's eyes. "I wanted to get a lot of emotion from the camera-work," says the director. "You can just imagine how horrific it must have been when they were doing triage

and had so many bodies coming in. Nurses were pulling dead bodies off a bed in order to get another person in. In talking to John about these scenes, I wanted to find a way to soften some of that gore and keep it more about Evelyn's point of view. John came back from Panavision with a swing-and-tilt anamorphic lens, which helped make the scene more eerie without being [too graphic.] You *feel* the gore, but you don't see it. I actually like violence in a war movie, but because of the love-story element, I needed to soften the *intensity* of that violence. It was important to survivors of the real attack that younger audiences would also be able to see this film."

To achieve the effect that Bay wanted, Schwartzman employed a brand new Panavision lens. The cinematographer recalls, "When I was prepping *Pearl Harbor*, I told Dan Sasaki at Panavision, 'I need a weird point-of-view lens.' He told me about a lens he'd been developing for [cinematographer] Amy Vincent for a project that never came together. Although it wasn't finished, we put it together, and I flipped. He built me two of them, a 40mm and a 100mm. They had severe chromatic aberrations and a score of other 'defects.' Everything that you try to get a lens not to have, these lenses had in spades! But they ended up being incredibly gorgeous, and we used them all the time for POVs once the attack happened."

The film's final battle segment features the devastating capsizing of the *USS Oklahoma*. Drawing upon the innovations achieved on *Titanic*, the crew filmed this harrowing event in the immense water-tank facilities at Rosarito Beach Studios in Baja, Mexico. "That was one of the most spectacular sequences we filmed," says Schwartzman. "The *Oklahoma* actually rolled over as it sank, so we built a 150-foot-long front end of the ship on one of the largest gimbals in the world. With the gimbal, we could



Evelyn (Kate Beckinsale) tends to a patient in a set that was added onto the Linda Vista Hospital in Boyle Heights, California. "We just parked a Musco light across the street and never raised the rack up," says Schwartzman. "That way, we could get a single source and shadow, as though it were the sun, but maintain control of it all day."

rotate the battleship a full 360 degrees while stuntmen literally hung onto the metal railings, dropping off and falling 35 feet into the water. We shot the sequence with the studio's tower crane, which had a Wescam mounted on it, as well as an Akela crane, which we floated on a barge in the tank. We could then follow the stuntmen down with the Akela crane as they fell and get overhead views with the Wescam.

"In all, we had five cameras, a 30-foot SuperTechnocrane, the Akela crane, a Libra III mount, two Wescams and two HydroFlex housings. [Underwater director of photography] Pete Romano also built us an underwater remote head for his salt-water Aquapod. So we had a crane that allowed us to put a camera eight feet underwater to shoot submerged men with bullets coming at them, and then crane out of the water as airplanes flew by — all in a continuous shot!

"That sequence was particularly spectacular to shoot because the effects crew could just throw a switch

and the whole ship would right itself," he continues. "The actors would dry off, and we'd be ready for Take Two. The ability to redo those sequences over and over again to refine them was extraordinary. Mechanical-effects supervisor John Frazier and his crew were working at such an extraordinary level. I could gimbal the ship to any degree and stop it to do a shot of guy sliding down the deck while we used the Akela to track with him. We'd actually get onto the deck of the ship with handheld cameras — putting harnesses on and having my key grip Les Tomita shackle us down — and then turn the ship literally 90 degrees perpendicular to the ground. We'd be standing sideways, shooting handheld as these guys flew past us. By the second day, we had the electronic press kit crew tied down to the ship — it became an E-ticket ride!

"I had a Musco light so that I could actually attack these sequences as though we were shooting on a soundstage," he adds. "The Musco helped us achieve consistent back-



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One Nation, Under Siege

light all day long.”

Creating Nostalgia

With the epic battle scenes in the can, the remainder of the shoot involved creating the love story. Chief among these scenes were sequences depicting Rafe and Evelyn falling in love before they're pulled onto separate paths. “Our first location after coming back from Hawaii was the *Queen Mary*, where we shot a nightclub scene,” Schwartzman says. “I talked to my gaffer, Andy Ryan, about staying true to lamps of the period. Normally we would light up a bar with a lot of Kino Flos, but in this film we used a lot of Linestras. They look like fluorescents, but they're an incandescent source with a thin tungsten wire in them. Because so much of the shoot in Hawaii was about daytime exteriors or interiors, the nightclub scene was one of our first major interior lighting setups, so it was our first chance to find out which sources looked good on people's faces.

“We had the pre-rigging crew put about 100 Par cans up above the set on a truss,” he details. “Because the room was wood-paneled, I wanted to keep everything kind of warm; we placed warm gels on every

other unit, so all of the light that hit and bounced off of things was warm. We then roughly focused those units on different tables, and we could easily paint in areas on a shot-by-shot basis. For instance, if I wasn't seeing a wall in-shot and I needed some fill, I'd take six of the Par cans all the way up on the dimmer and bounce them off that wall to create some warm ambience. With the Par cans up in the truss, we could always have some nice, hard backlight, no matter which way the camera was pointing.

“With all of the women's dresses in the swing-dance shots, where we were doing a lot of low angles, it looked nice to rim-light people out. From there, it was just a matter of adding fill, which I did mainly with the use of smoke. Sometimes the fill was a white or silver card that was bouncing back the existing backlight coming down. Or, if the shot was of Kate, we'd bring in a China ball on the end of a boom pool to clean up her eyes a bit more.

“Michael tends to move the camera so much that it's difficult to lock yourself into a lighting setup — especially in a location that has no windows,” he continues. “I knew I was going to have 80 extras for the

scene, and that I had to make them look like 200, so the backlight helped. I could throw some smoke and light back there to build some ambience and create the illusion that there were more people than there really were. Also, I wanted to make our actors the focus, and by using a lot of rim light, I wasn't lighting people's faces in the background. I could then selectively light any faces.”

Another key sequence involves Rafe's confession to Evelyn that he has volunteered for the Eagle Squadron and will ship out the next day. “We had one night to shoot this very emotional, three-page scene,” Schwartzman recounts. “The building we were using for our hotel in the movie had a little alcove with a beautiful, clover-leaf-patterned, wrought-iron divider separating the alcove from the entrance to the building. I told Michael that I loved those shots in films where someone's in a confessional and dappled light is coming through the mesh onto their faces, and I suggested that we do something moody like that. He agreed, so we tented the alcove in, and I used a single open-faced 2K with a ¼ CTB to create the pattern. The lighting was more about choosing the right instrument to get the right effect,

Schwartzman takes a meter reading on location in Hawaii as director Michael Bay peers through the camera. “Our strategy in shooting exteriors was to do exactly the opposite of what [Kodak advises],” he notes. “They say that the sun should always be behind you, frontlighting the subject; on this film, we figured if the sun was not in our faces, something was wrong. We planned to play the sunlight back- or crosslit as much as possible.”



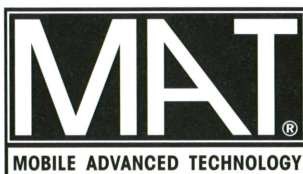
finding the right filament for how sharp we wanted the shadow pattern to be. Then, because the uniforms were dark-green wool, we needed a very punchy edgelight to bring out their color and texture. Using hard light helped to ensure that the costumes showed up.

"My tendency in lighting is to work from a simple point of view," he adds. "In this sequence, for instance, I imagined that our key source was a streetlight coming in through the grate. Then, since we were in an alcove to a hotel, I figured that there would be some warm light bleeding out of the lobby. I always break lighting down that way, no matter what I'm shooting. That way I can't get lost — if I ever have to go back and recreate the lighting without seeing what I've already shot, I can look at the location and figure out how I lit it. The source of the lighting has to feel as though it's part of where you are at the location.

"For me, there always has been a sense of black and white in a frame," he expands. "By doing that, you set up your ratios — your limits or dynamic range — and can then fill in the shades of gray in between. I always try to have the extremes of contrast in every shot I do. I try to have black that's three to three and a half stops under what my exposure is, and also [an element] that's three to three and a half stops over. Even if it's highlight off of somebody's ear, those details give an image life.

"I also believe that movie stars should look like movie stars," Schwartzman adds. "One of the things we started to do on *Armageddon* — because it was hard to get light into the space helmets — was to handhold a light and 'animate' the scene. On *Pearl Harbor*, I'd often have a Tweenie with a snoot aimed at somebody's face, and I'd just move it up and down a little bit, making the shadow move in a subtle way that added to the performance. For the scene in the alcove, the shadow

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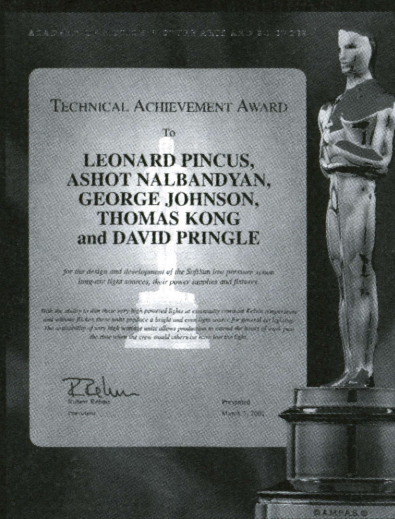


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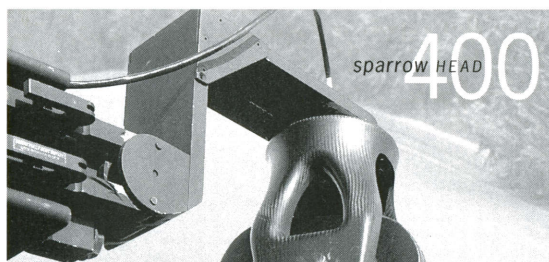
One Nation, Under Siege



The crew captures some on-deck chaos with the help of the tilting gimbal in Mexico.

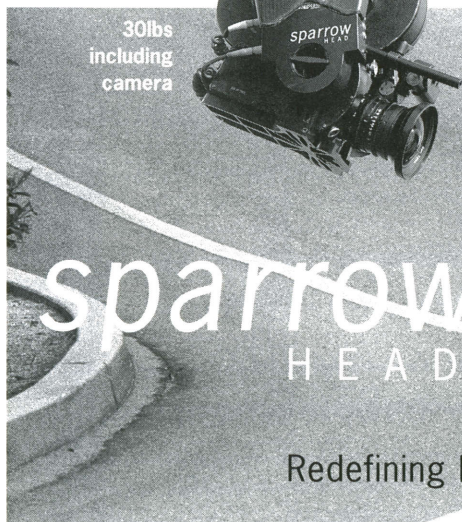
pattern on their faces was achieving what I was doing in other scenes through the animation of the light. Even though the light was fixed in that instance, the shadow pattern was doing the animation for me. As Ben and Kate moved, the pattern came alive and moved across their faces. The question was, is this distracting for the scene, or does it draw you in? It was a difficult balance, but when I saw it in dailies I felt that it worked well."

A final factor in the look of the film was Bay and Schwartzman's decision to utilize Technicolor's revived dye-transfer process for a substantial number of *Pearl Harbor*'s release prints (see "Soup Du Jour," AC Nov. '98, for details about this process). "What amazes me about dye transfer is that it's sharper than Eastman color positive," states Schwartzman. "It's mind-boggling to think that taking a piece of negative



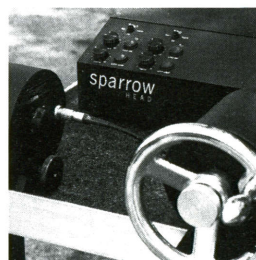
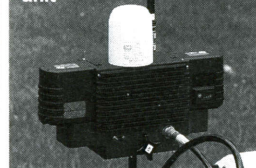
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and physically extracting the image into three matrices, coating them in food coloring and then laying them back onto a piece of clear celluloid could be sharper than projecting light through a negative that's in contact with a piece of positive. But Dick Goldberg at Technicolor explained that photons of light take a very indirect path through a piece of Eastman color positive; because there are so many various filter layers and dye-couplers, the image actually gets very diffused compared to a dye-transfer print. In fact, when we compared dailies printed off the original negative and a dye-transfer print, we were amazed that the dye transfer made the standard color positive almost look like a dupe! But because the three colors are handled separately in dye transfer, there's no cross-talk problem. I love Eastman Kodak stocks, but when you see a dye-transfer print compared to a

color positive, you can see that there's actually a lot of cyan in skin tones on the standard print. When you look at people's faces on a dye-transfer print, you realize how pure the color channels are. It's remarkable.

"I want the whole world to see what a modern dye-transfer print looks like and realize how spectacular the filmgoing experience can be," Schwartzman concludes. "If you're paying \$9 or \$10 to see a movie, you should get the best image you can. Dye-transfer prints are no more expensive than Eastman color positive prints, and they're just spectacular. With a film of this scale, it's nice to carry the dye-transfer torch out to the marketplace and say, 'Look at what we've all been missing since *Godfather II*!'" ■

Revisiting

Tora! Tora! Tora!

As film buffs know, *Pearl Harbor* is not the only film to recreate the stunning events of December 7, 1941. In 1970, moviegoers experienced the sound and fury of the battle in the epic war film *Tora! Tora! Tora!*, directed by Richard Fleischer and photographed by Charles Wheeler, ASC (who won an Oscar for his efforts). This month on the ASC's Web site (www.cinematographer.com), Wheeler and his former camera assistant, Ron Vargas, ASC, recall the methods they used to recreate the full impact of this historic incident.

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Earning Their Wings



Spectacular aerial footage, captured by a team of pilots supervised by cinematographer David Nowell, lends *Pearl Harbor* even more excitement.

by Ron Magid

Unit photography by David Nowell, Eric Turner, Richard Burton and Andrew Cooper, SMPSP

If there was a genuine flying ace on *Pearl Harbor*, it had to be aerial cinematographer David Nowell, who defied death, time and budget constraints to capture, in-camera, much of the glory, destruction and infamy of December 7, 1941 — often in a single take.

Nowell began shooting sports and news events as an assistant for Continental Camera Systems in 1972, and his career took off four years later when he went to the Philippines to assist David Butler on aerial photography for *Apocalypse*

Now. He has worked on virtually every important aerial picture since then, from *Top Gun* to *Air Force One*, and is now the acknowledged leader in his field.

"It's certainly exciting work," Nowell admits, "but the only close call I ever had was on *Apocalypse*. I was sitting in the helicopter with David Butler, who was shooting with a lot of smoke, and suddenly, coming straight at us through the smoke, was one of those Hughes 500s. Fortunately, our pilot, David Jones, and the 500 pilot saw each other at the last minute, and we didn't hit. I've actually been banged up more from working on the ground than anything else!"

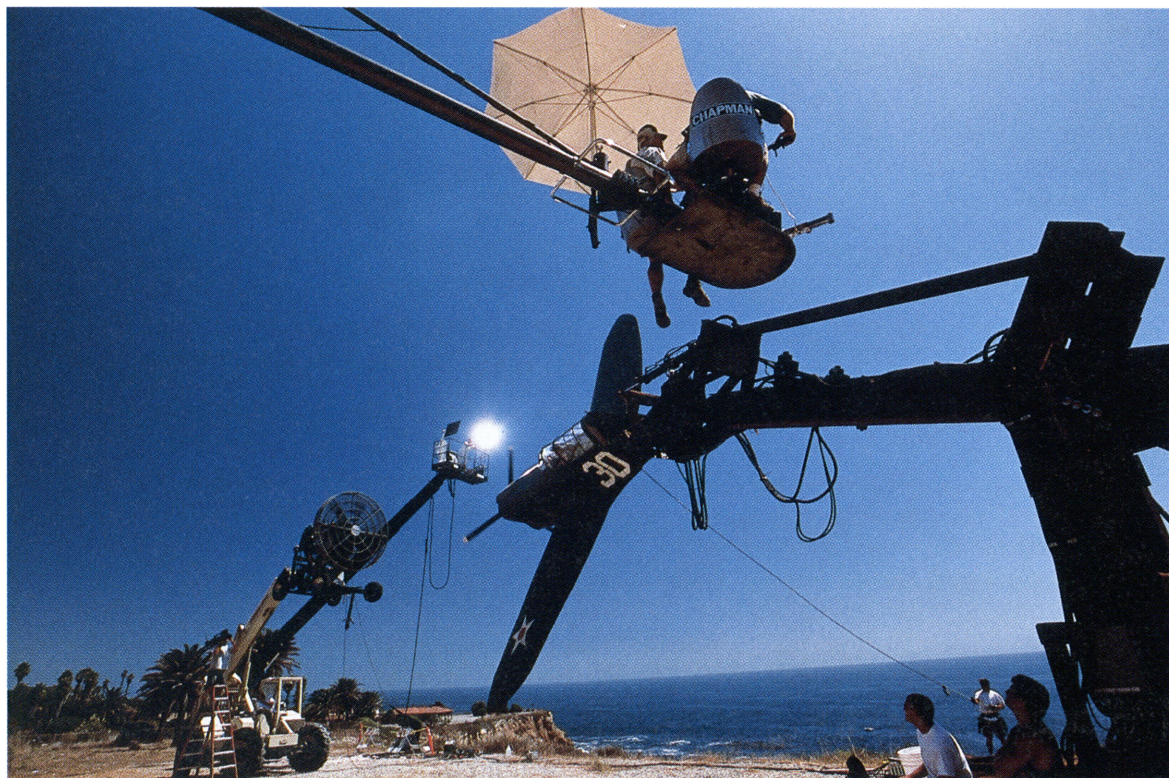
Those rough-and-tumble experiences helped prepare Nowell for his later work with *Pearl Harbor* director Michael Bay. Their association began on Adrian Lyne's *Indecent Proposal*, on which Bay was a second-unit director. "At that time, Michael didn't know a great deal about aerial photography," Nowell recalls, "so my friend Bob Zajonc

and I showed him what we thought he could use. We made a bunch of commercials together after that, and he asked me to work on his first film, *Bad Boys*. I wasn't available, but I did work with him on *The Rock* and *Armageddon*." Nowell's work on those films made quite an impression on Bay. "I've flown with him a lot," says the director, "and I just love his camerawork. He's always the one who goes up and gets exactly what I like."

Nowell notes that he frequently directs the aerial sequences for Bay, and also for directors Wolfgang Petersen and Tony Scott. "After I directed sequences on *The Rock* and *Armageddon*, I was getting a good idea of Michael's style — the kind of moves he looks for, the tighter lenses and the lighting he likes, and his [fearless] attitude," Nowell says. "But *Pearl Harbor* is, of course, one of our biggest jobs so far. From an aerial perspective, it's probably the biggest picture since *Tora! Tora! Tora!* It's been almost a year's work."

Much of Nowell's work occurred during preproduction, when he began imagining how to achieve what Bay had in mind. "I told everyone involved that I wanted *Pearl Harbor* to be the most advanced flying movie ever made," Bay recalls. "I wanted it to be aggressive, rough and raw. I wanted to push these 60-year-old aircraft — I wanted to see them flying 10 feet off the ground."

Nowell began shooting tests and background plates at the Pearl Harbor base in Hawaii during August of 1999. The following December, he began designing and building a number of highly specialized camera mounts to capture the deadly assault on the U.S. fleet and other aerial combat scenes. "Our fixed-wing coordinator, Steve Hinton, determined where there was enough structure to anchor the mounts [on the planes]," Nowell explains. "Then my assistants, Scott Smith and Eric Turner, ran wire through the plane to each of the mounts. Hinton's crew had built to our specifications, [based on our



Opposite page: A squadron of planes, meticulously painted in period detail, soars through the skies. The aerial action was supervised by accomplished cinematographer David Nowell. This page: In addition to real planes, facsimiles mounted on automated rigs were used to capture certain angles and close-ups.

Earning Their Wings

The Gyrosphere, a gyrostabilized camera system, was used to film roughly 80 percent of the aerial photography on *Pearl Harbor*. The rig was mounted either on special nose bracketry attached to a Eurocopter A355 Twin-Star helicopter (shown here) or on the tail of a B-25 Mitchell bomber.



research] at the Planes of Fame Museum in Chino, California.”

By February 2000, the rigs were ready. The bombing of Pearl Harbor was the first sequence Nowell and his crew shot, and it took six weeks to capture. Although only two U.S. P-40 planes got off the ground during the Japanese sneak attack, Nowell used a helicopter, a B-25 bomber and a T-28 Navy trainer plane to capture all of the aerial action. “We had to use different toys to get the different perspectives that you normally don’t see,” Nowell explains. “The Gyrosphere is one of the best gyrostabilized aerial camera mounts for plates and air-to-air [photography], but there are certain things you can’t do with any gyrostabilized mount, such as pan or zoom rapidly on a fast-moving airplane. They fly past you at such a high speed that the helicopter had to do the panning for me. I had to rely on our other aerial coordinator, Alan Purwin, to keep me on target. We used the Tyler Major Mount for those dogfight sequences, but probably 60 percent of our shots were made from a Gyrosphere mounted

on Alan’s Twin-Star helicopter, which he brought to Hawaii.

“I also wanted to mount the Gyrosphere on the tail of the B-25 for air-to-air work, and to be able to swap it back and forth between the B-25 and the helicopter, so Steve Hinton’s crew built a special rig that allowed us to do that,” he continues. “We tried to coordinate things between the first and second units, but [sometimes] we’d be set for one shot with the helicopter when Michael’s schedule would change, and we’d have to do something with the B-25. It took about three hours to make that swap.”

Even helicopters and the B-25 weren’t aggressive enough for Bay’s high-octane style. “We’re always seeing planes in movies from either a locked position or from another plane,” Bay complains. “The B-25 is cool, but it didn’t give us that ‘swinging the audience around’ feeling. I wanted a plane to film the action while going at war-bird speed.”

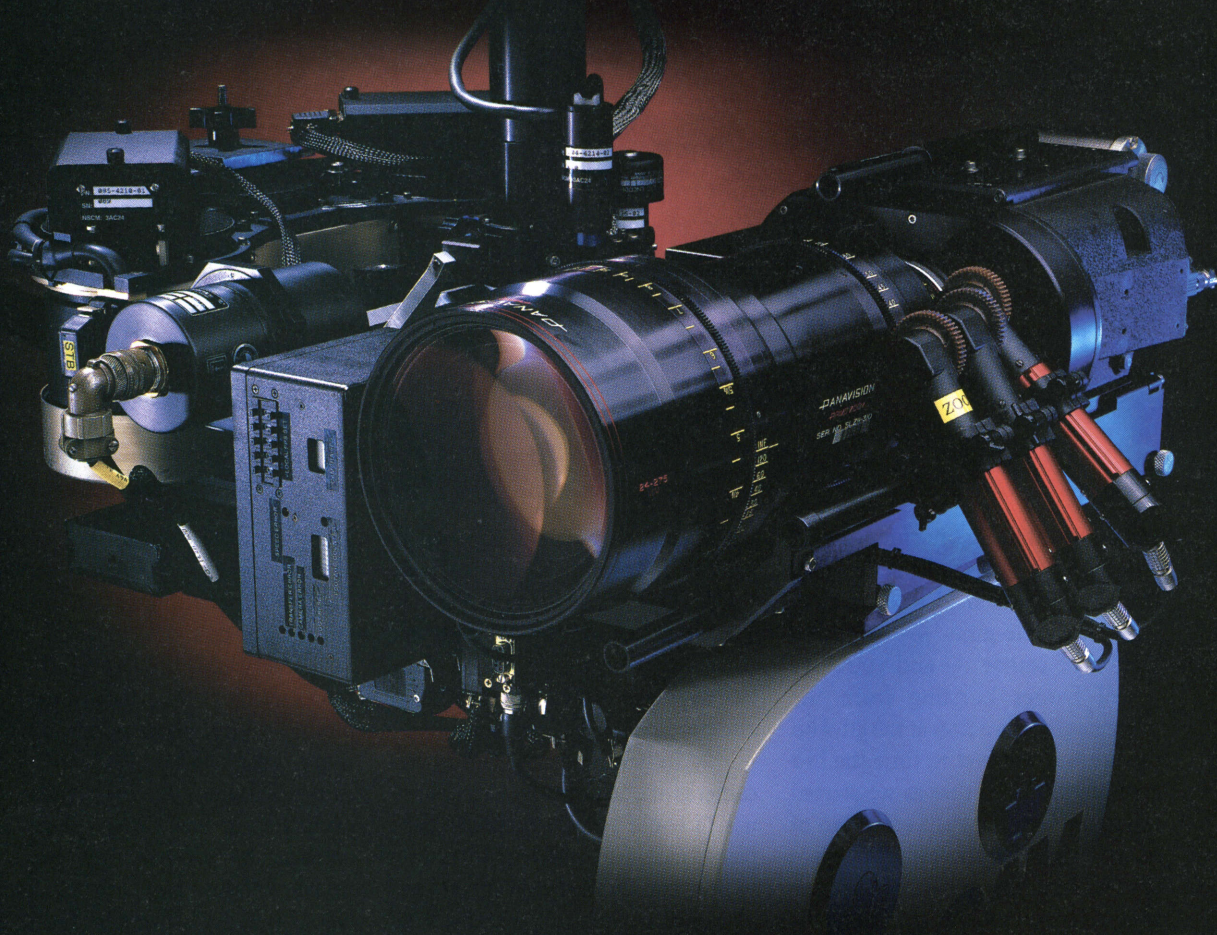
To accomplish that effect, Nowell says, “I used Kevin Larosa’s T-28, which has a forward seat for the pilot and a back seat for a trainer, to

simulate the POV looking back at planes chasing us. I used three Arri 435s at the same time [for those sequences.] The first camera was mounted behind the back seat, facing the rear; I sat in the trainer seat and shot over the tail. We painted the tail green so that it would match the color of either the Japanese Zeros or the American P-40s. I also had an Arri with a fixed lens in a pod mounted under the right wing, facing the rear, and another with a zoom lens under the left wing, facing forward. The plane behind could follow us as we rolled the camera plane and so on, and we could chase a lot tighter ourselves. I could zoom in and get some really dynamic stuff that we just couldn’t have done in a helicopter.”

Another of Nowell’s spectacular rigs was the Tyler Guncam Nose Mount, which seated a camera between the barrels of two machine-guns. “Tyler built a beautiful rig that we mounted under the belly of the helicopter, but because of the lens alignment, it looks like the camera is mounted on the wing of the Japanese Zero, overlooking the barrels of the

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Earning Their Wings

This special helicopter nose mount, designed by Tyler Camera Systems, captured the POV of two .30-caliber machine guns, which simulated the wing guns of a Japanese Zero strafing Pearl Harbor during the attack.



wing-mounted machine-guns,” Nowell says. “We could actually fly straight in on the field, blasting away with machine-guns — shooting blanks, of course — and you’d see actual flames bursting from the barrels as the Zero fires at the guys on the ground. We had to time the hits on the ground so that as we started rolling, the bullets went off ahead of us and looked as though they were coming from our guns. Michael likes to do as much organic stuff as possible, and it’s very effective.”

In addition to the camera planes and helicopters, Nowell rigged cameras on the P-40s and the Japanese Zeros and Kates involved in the scene to create some of the most unusual vantage points ever seen in an aviation film. “Michael wanted a lot of shots [that would make viewers feel as though they were] in the cockpit or flying with the planes, which required mounting Photosonics 4ML cameras on some of the airplanes. The cameras had to be able to pan and tilt and then lock into position. It took Matt Mauch at Steve’s shop a month to manufacture modular mounts for the four differ-

ent aircraft that would allow us to position the camera forward or backward. The cameras also had to quickly attach or detach from the permanent, camouflaged base plates that supported them and their heavy anamorphic lenses.

“I often ran both Photosonics cameras at one time,” Nowell continues. “I could put them on the same plane, facing in different directions so they couldn’t see each other. We’d place one in the cockpit of the Zero overlooking the pilot’s shoulder, and one back by the tail overlooking the cockpit and the wings. We tied into the plane’s power, so we never had to worry about batteries when we sent them out to dogfight. This gave us a lot of aerial coverage, because we had as many as nine other aircraft flying.”

A Photosonics camera strategically mounted on the underside of a Japanese Kate torpedo bomber created one of the film’s more memorable shots. Nowell explains, “I told Michael I could mount a camera about 8 inches behind the torpedo so we could see it drop away, and he said, ‘Okay!’ I overcranked on the drop because I knew the torpedo was

going to cut away so fast that I’d need to slow it down — 96 fps was perfect. That’s a perspective you just can’t do any other way.”

Most of the time, Nowell undercranked the Photosonics at around 18-20 fps to punch up the flying sequences. “When your camera’s bolted to an airplane, it doesn’t look like you’re going fast enough,” he acknowledges. But the undercranking had other advantages: “Because we were shooting 20 frames or less with 400-foot magazine loads on the Photosonics, we had longer running time. A good flight might take an hour. On the other hand, the B-25, which was the camera plane for most of the ‘Armada’ sequence, had a 1,000-foot load. Our Gyrosphere assistant, Richard Burton, cut a special hatch into the camera housing that enabled him to crawl into the B-25’s tail and reload the camera in the air — whether we were shooting VistaVision or normal 35mm. As long as we had film and fuel, we could keep going; we could easily stay up for about three hours.”

Nowell generally matches his

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Earning Their Wings

film stocks to those used by the production's director of photography. "[*Pearl Harbor* cinematographer] John Schwartzman [ASC] liked to use Kodak [Vision 200T] 5274 for daylight, and he used [Vision 320T] 5277 and [Vision 500T] 5279 for real low-light material," Nowell recalls. "We shot [Kodak EXR] 5245 for most of the aerial sequences, including the plate shots. We were working in daylight, so I had plenty of stop even with the prime lenses and high speeds. ILM initially asked us to shoot the 5245 to accommodate their plates and CGI work, but after seeing some of the first composites, they felt we were getting too much contrast, so we did the rest of the plate shots with 5274."

The security of a known f-stop is about the only constant in Nowell's line of work, in which every composition is designed, literally, on the fly. "The composition depends on the

format, which has been 2.35:1, whether anamorphic or Super 35, on almost every feature we've done in the last few years," he remarks. "It's a matter of getting used to the format, then making it work. If there are two planes up and you've only got one in your shot, you often have to look away from your monitor to see where the other plane is; at the same time, you have to keep panning and tilting instinctively with the one that's already in frame, while letting the other plane come in. Sometimes I'll sense that another airplane is about to enter the frame, and I know that I've got to start to pan *here*."

Nowell's duties on the ground were just as rigorous. For *Pearl Harbor*, he and his assistant Smith positioned a camera equipped with an 800mm lens atop a 10-story tower to simulate air-to-air photography, then insisted that the P-40s and Zeros literally dive-bomb his posi-

tion before pulling up and away at the last moment. "The only way you can get that stuff is head on, when the guy is coming straight at you then breaks really hard," he says. "The pilots knew where we were, whether we were on the ground or on a mountaintop or cliff, and we had them fly to and from our position to get the perspective we wanted. I'd wait till the P-40 was full frame, call his break, then wait for the Zero chasing it to come through frame and hang with it a little bit before letting it go out of frame. We did the same thing in England with a German ME-109 and a British Spitfire for the Battle of Britain sequence. Michael loved it whenever we didn't quite catch one of the planes and had to hang back to find it. He kept saying, 'You're making it too perfect! Screw it up a little more!'"

Unfortunately, Take One was



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often the only shot Nowell and his crew were permitted, especially when there were a lot of practical effects involved — which was true of the entire Pearl Harbor bombing sequence. Bay recalls, “Logistically, the toughest shot we did was when we were blowing up 600-foot ships, and the camera planes had to be timed to the movements of the pilots and the 350 bombs — and all of it had to go off in seven seconds. We were working aerial and ground, and it was literally like a dance. The effects people were rigging those ships from the inactive fleet for a month and a half, and we had to worry about the pilots’ safety.”

Getting the shots Bay wanted was a real white-knuckle job for Nowell: “Michael was covering the ships exploding from the ground with about seven cameras. He wanted me to cover it from the air and try to keep two Val bombers in



Aerial director/camera-man David Nowell is ready to roll in the cockpit of a camera plane. This camera rig was used to film Japanese Zeros chasing a Curtis P-40 in dogfights over Pearl Harbor.

the foreground during the explosion. John Hinton flew the B-25 in a large circle above the ships, keeping the two Vals on the inside of our turn. During the rehearsal of the timing of the call for ‘action,’ we were sometimes in the right position and sometimes way out of position. Over the

radio, we heard ‘Good luck,’ because the timing was going to be for the ground cameras. As it turned out, the explosion was positioned perfectly between the two Vals. Thank God for good luck!” ■



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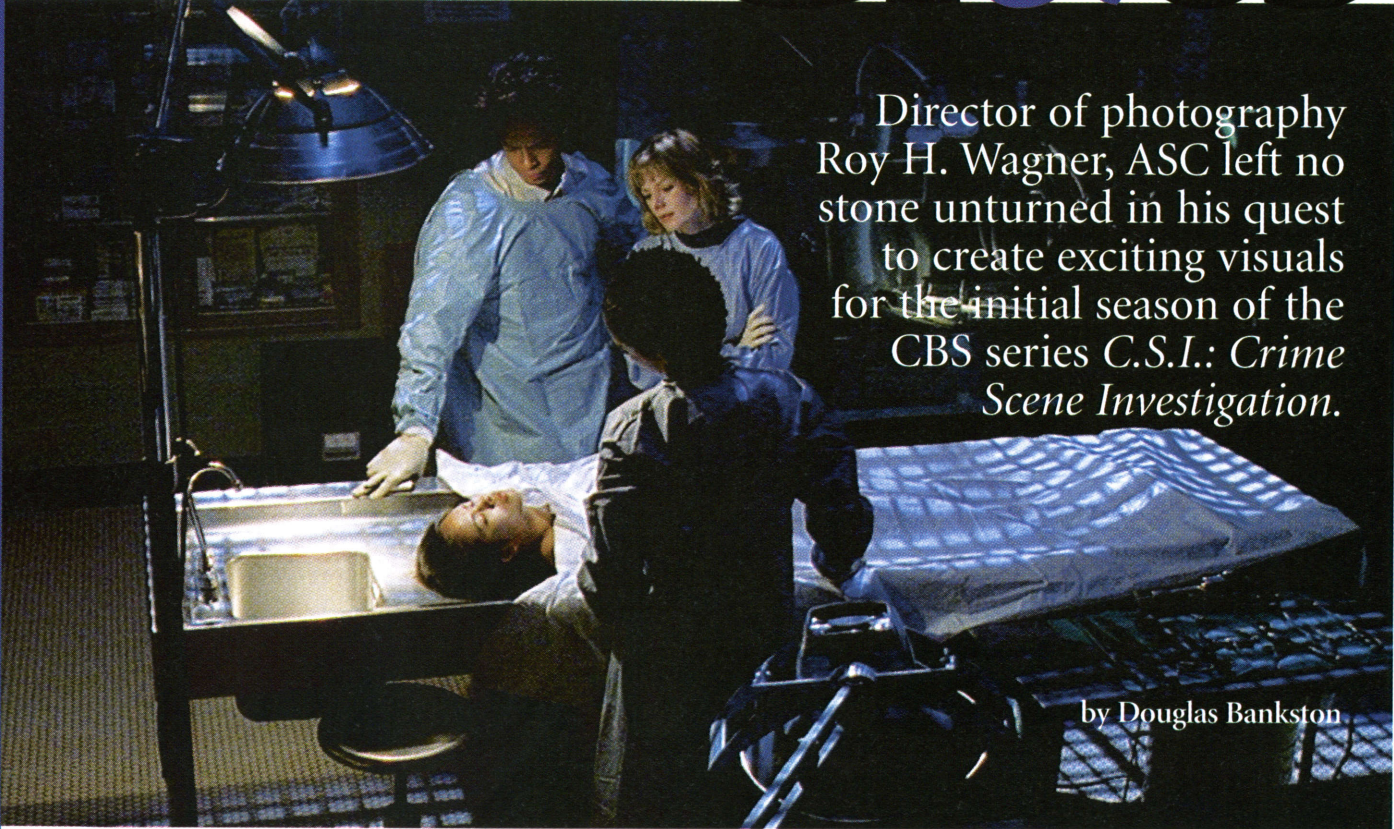
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Searching for Clues



Director of photography Roy H. Wagner, ASC left no stone unturned in his quest to create exciting visuals for the initial season of the CBS series *C.S.I.: Crime Scene Investigation*.

by Douglas Bankston

In the crapshoot known as prime-time television, CBS has rolled a seven with the hip new crime drama *C.S.I.: Crime Scene Investigation*, set in the lavish land of high rollers, Las Vegas. During the show's guitar-driven intro, rock supergroup The Who lyrically poses the question "Who are you?" In each episode, a crime or two has been committed, and answering the "who are you" query — to discover the identity of an unknown perpetrator or, in many cases, a victim — falls to team of forensic

scientists who use enough old-fashioned intuition and highly advanced technology to make even the strong-stomached Quincy, M.D., green with envy. Team leader Gil Grissom (William Petersen) emphatically states that, for each crime, "there is always a clue."

Since one of the show's executive producers is blockbuster maven Jerry Bruckheimer, the kinetic *C.S.I.* called for an aggressive, stylized look, and ace cinematographer Roy H. Wagner, ASC was chosen to see this vision through. Wagner is a veteran

of feature films (*A Rumor of Angels*, *Nick of Time*, *Drop Zone*), television projects (*Cracker*, *Beauty and the Beast* and *Quantum Leap* pilots) and commercials.

Like many first-season programs, however, *C.S.I.* has experienced its share of growing pains. The pilot episode, photographed by Gale Tattersall, BSC, had a very commercial look with deeply saturated color, but the series initially opted for a more natural look. Wagner found this to be an interesting choice considering the participation of

Bruckheimer, whose other projects tend to boast top-notch production value and avant-garde photographic methods. "During that first episode, we got a call from Bruckheimer," states Wagner. "He hated the look and wanted a darker, more aggressive approach. This approach is more in keeping with the style I am normally hired for, and thus, it became a great journey down a familiar path."

An intrinsic part of Wagner's approach to *C.S.I.*'s first season was camera movement that was built into the scenes. "I love movement," he stresses. "I'm very 'Italian' in that regard, and I'm also fascinated by what the English started doing in the Sixties, where they would counter-move against the action. On every project I do, I encourage the actors and the director to explore movement on multiple planes. On *C.S.I.*, we often staged a scene with a fixed or limited proscenium. If an actor is given free rein within a set, the flexible proscenium makes movement and character intent more organic."

To help convey the liveliness of the characters and how they interact with the sensory-assaulting surroundings of Las Vegas, Wagner shot with two cameras, a Panavision Platinum Panaflex and a Panaflex Gold II. Another Lightweight Panaflex was permanently affixed to a Steadicam rig. "[In terms of] the interrelationship among actors," the director of photography says, "I feel that it is very difficult to sustain performance between takes, so I tried to give the directors and the actors a continuity and rhythm with regard to performance. Scenes can be sustained without cuts so that the performance rhythm can be a more organic relationship between characters created on the stage floor. Performances created in the editing room have a more artificial quality. Most often we had cameras shooting across from each other to get both sides of the performance at the same time. That made it easier for the

actors, the directors and the editors because performances match, and thus the edits cut more smoothly. But that also makes it very difficult for the cinematographer to find the best light."

Since even the tiniest of crime-scene clues can be of key importance to the investigators, Panavision Primo Close Focus lenses were often employed. In addition, the camera package included the Nikkor 300mm and 600mm lenses, Panavision's 4:1 (17.5-75mm) zoom and Century Precision Optics' 17.5-27mm zoom. The Century lightweight zoom was normally reserved for the Lightweight Panaflex on the Steadicam rig. Though some highly detailed insert and CGI work was handled by the effects house Stargate, the *C.S.I.* camera crew shot much of the microphotography on their own with the help of Schneider's Achromat and close-focus diopters.

Wagner used Schneider filtration exclusively, including the Soft Centric and Classic Soft Diffusion. Outdoors in the desert sun, grads, polarizers and the Schneider Enhancer were frequent inhabitants of the matte box.

Another integral part of the first season's look was, of course, Wagner's lighting style. The cinematographer's daylight package included an array of lights, including a 50K Xenon SoftSun, a 7K Xenon, six 6K and 10 1.2K HMI Pars, and four Dedo 400-watt HMIs. His tungsten package comprised approximately 20 Source Four Pars, six Maxi-Brutes, one 10K, three 5Ks, six 2Ks, six 1Ks, a few Tweenies and two Dedolight 150 kits.

Noticeably absent from his daylight collection were Fresnel HMI lamps. Wagner feels that the light quality generated by Pars better suits his lighting technique. "In order to



Opposite: Investigators Warrick Brown (Gary Dourdan) and Catherine Willows (Marg Helgenberger) check out a victim in the autopsy room. This set offers a good example of director of photography Roy Wagner, ASC's reactive lighting style, in which light reflected from the metal surfaces interacts with the characters depending on how they move within the environment. This page: A before-and-after comparison demonstrates how Wagner captured a scene and then altered its look during color timing. Before timing, the scene appeared rather even, since Wagner exposed for the shadows with an overall warmer tone. Through color timing, he was able to approximate a bleach-bypass look while maintaining the skin tones, thus enhancing the ambience on *CSI* team leader Gil Grissom (William Petersen).

Searching for Clues

In a flashback sequence from Episode Three, ("Crate and Burial"), a double-crossing lover (Hamilton von Watts) walks toward the hole he's dug in the ground fit for his conniving, married mistress, Laura Garris (Jolene Blalock). After a high-contrast, bleach-bypassed look was imitated in color timing, the color of the background mountain was bent toward the cool side using Power Windows, lending the image a unique appearance.



aid my philosophy of keeping the filmmaking process less obtrusive for the actors, I can use the long throw and high intensity of the HMI Pars at a greater distance," he explains. "At the greater distance, the quality of the light is less harsh and more diffused. On *C.S.I.*, I tended to not use the light at its optimum position. I raised the light higher and tipped it down so I was using the obtuse angle of the reflector against the housing of the lamp. In that way, I wasn't getting the cleanest projection of the lamp, but more of a fringing, and many times on an incandescent Fresnel I'd spot the lamp down to get even more of a fringing effect. It provided a very different light pattern on faces. Below the frameline you could see a very hot spot, but what was in the frame had a more natural fall-off."

Another typical cinematographic mainstay that Wagner eschewed was dedicated fill light; he preferred to let fill occur naturally within the environment. "I found that fill light bouncing back from the natural elements within the frame appeared more realistic," he explains. "For example, if I was using a 1,200-watt Par and I had a shiny surface somewhere in the frame, that would react in a different way than if I put a fill light over the camera. I might have gotten the same contrast ratio between shadow and highlight, but the light would not respond to the environment."

"[I prefer to] have a more reactive light situation," he adds, "not unlike what you find in life. When a character moves through a room, you begin to see the reaction of the

light being displaced by the intrusion. I love the way that looks. Creating this illusion is a matter of where the exposure is placed. On *C.S.I.*, I tended to expose more toward the shadow side. I knew that with the incredible exposure latitude of Eastman Kodak's Vision negative, I could bring the highlights back down, thus compressing the dynamic contrast ratio. In the electronic darkroom I was stretching the gamma, or the middle tones; crunching the pedestal, or the black level; and lowering the gain, or the highlights. It was a very interesting way of looking at contrast, and it's why the show *appears* to be dark, even though it really isn't."

In fact, early in the season, certain circles within the production were claiming the show was *too* dark — which was puzzling, because that didn't correspond with what Wagner knew he had recorded on the series master tapes. After some investigation by the series' postproduction supervisor, it was ascertained that the problematic West Coast feed originating in Los Angeles did not match the East Coast feed, and the error was corrected.

Wagner uses this anecdote to cite another example of Bruckheimer's dedication to photographic excellence. When foreign distributors had also voiced their concerns that the series was too dark, several episodes were modified in post to placate the international companies. Upon discovering the modification, Bruckheimer demanded that the photography be brought back to its original style.

C.S.I.'s rather morbid centerpiece is the autopsy room, a set constructed for the show. Wagner took his lighting cue from an actual morgue that was used for the first episode. "We only used the operating lamp over the autopsy table," he recalls. "I was amazed at the reactivity of the light within the room, how it responded to the shiny surfaces

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Searching for Clues

Right: Willows jokingly catches Brown in a compromising position, but the duo soon realize that they've actually stumbled onto a break in a shooting case in Episode 15, ("Too Tough To Die"). Below: In this flashback scene from the same episode, a dispute turns deadly as Laurianne Hastings (Katy Boyer) watches her husband, Chuck (Gary Bristow), fall to the ground after being shot by a disgruntled Roy McCall (Geoff Meed). To provide the image with a "crispy feel," Wagner opted to have the whites blown out and the color desaturated in timing. By shooting in a warmer manner and exposing for the shadow detail, Wagner was able to exploit the entire dynamic range of the negative while using Encore's VIP transfer process.



and refrigerators in the background. As actors moved around in that environment, we got that interaction, which subliminally makes the audience think that what they're seeing is real. On the autopsy set constructed for the series, I used the strong bounce off of the table. In the background I had spot-Par mushroom globes installed in the ceiling, perfectly placed so you only got a 'kiss' of light running down the refrigerator and the cabinets. I was very involved in the selection of practicals on all of the sets and specifically that set, where I asked to have a lot of brushed metal on the walls. The walls lit themselves, and the light for the actors was reflected from the table. There were times when I had a 1.2K HMI bounced into a mirror, which projected a more sharply defined

blue beam down onto the set. All of the sets on *C.S.I.* are designed for practical illumination."

Wagner pushed the cinematographic envelope by skewing the images more toward the bleach-bypass process, which *C.S.I.* producer/director Danny Cannon greatly encouraged. This method opened up a world of imaging possibilities for Wagner in postproduction. "We actually created the look of the show in the darkroom, in post," he reveals. "We'd go into the timing bay, or digital darkroom, and really play with the negative. We were hyper-crushing, overly saturating, going into the base of the film, pulling the grain back up and doing all of the things you'd do in bleach-bypass. My theory was to capture the very

best image I could get on the negative so that we would have the full power to render the final image."

Wagner created these hyper-realistic images by exposing for the shadow detail using Kodak Vision stocks: 250D 5246, 500T 5279 and 800T 5289. The cinematographer is heavily influenced by the methods of still photographer Ansel Adams, who exposed his negatives in a way that would allow him to exploit the full range of tonal possibilities, since he also felt that the image was created in the darkroom.

Because the final image is created in the darkroom, Wagner sounds a cautionary note to those who question the need for a cinematographer and assume that the cinematographer's only responsibility is to capture an image on a piece of film. He points out that exposure is a very small portion of what a director of photography does. "The cinematographer is as much an interpreter of the writer's words as the actor or director," he says. "We create the visual literature that expresses subtextual nuance that the written or spoken word cannot easily [convey]. In the choice of light and shadow, movement, composition, and juxtaposition of elements within the frame, the cinematographer can speak to the inner person in the same manner that music does."

C.S.I.'s film negative was processed at Crest National Laboratories. Then Encore Hollywood conducted an initial high-definition transfer to the HDcam format via its own Video Inter-Positive (VIP) process. A dailies colorist ensured that this transfer was even from scene to scene, with the initial interpretations based upon Wagner's notes. These dailies did not affect the realm of possibilities available in the final tape-to-tape color-timing transfer that was applied using a da Vinci 2K Color Enhancement System. The final color-corrected images were laid down onto hi-def tape.



Encore's VIP process is a unique tool that gives a director of photography the ability to work with the images as if he or she is working with the actual film negative. The images have not gone through the usual dailies tape-to-tape color correction, thus avoiding the possibilities of having blacks crushed too far or whites blown out too much, which results in irretrievable information.

Gareth Cook, Encore's senior colorist for *C.S.I.*, confirms, "Nothing is compressed at all. It's a full, open range, much like the film negative itself, without any clipping or crushing. VIP also gave Roy and me the ability to take [the look] in any direction we want to go."

Wagner responds, "It's a great system, because it gives you the same options that are available to still photographers in their darkrooms. Ansel Adams always said that cinematography is not truly photography because cinematographers cannot control the final image. He was absolutely right. Since we haven't 'owned' the darkroom in motion-picture photography, the digital darkroom affords cinematographers the opportunity to claim our rightful position. I think that exposure is not the final stage. The final stage is what you do with the image before it goes into public release. As we begin to understand these tools, we have more creative power than we've ever had. I encourage every cinematographer to participate in the dailies and final timing process."

Since they had the negative's complete latitude in front of them, Wagner and Cook were able to imitate the bleach-bypass look. "Roy has talked to a lot of cinematographers and people from Fuji and Kodak," Cook observes, "and they've asked, 'How'd you get that bleach-bypass look?' It's an image he wanted to achieve without having to do it in a lab. When you do it in a lab, there's no going back. Roy came up with the

idea of doing it in telecine, where we would have more control over the negative and the image than you do in a lab. Shooting things slightly warm to neutral allowed us to keep the [proper] skin tones, because those would stay warm when we bent everything to be cool. We mainly bent the blacks to make them cool, and the whites to make them warm.

"One of the things Roy and I learned was that how he shot scenes determined what we could do in telecine," Cook points out. "Just experimenting and shooting in a normal to warmer tone really helped us lend different looks to the show's dark areas."

To alter the show's look from episode to episode, and even from scene to scene, Wagner called for

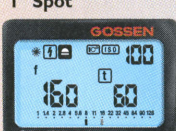




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Searching for Clues

Right: In "Crate and Burial," Garriss (Blalock) and her lover (Watts) share a moment of passion as she makes it appear that a struggle has taken place as part of a fake kidnapping scheme to extort money from her husband. The densest diffusion filter was used in telecine during the initial transfer, and once the tonal range was stretched out in color timing, the highlights blew out and the blacks went completely black, but a diffuse, blooming halo surrounded those blacks. Below: While shooting the episode "To Halve and to Hold," Wagner checks the angle of his second camera (just out of frame), which will film the diners during a restaurant confrontation inside the Venetian Hotel. Wagner frequently used two cameras to capture a scene because he felt that this approach provided a better rhythm for the actors, directors and editors.



subtle shifts in color. For example, a slight greenish tinge in the C.S.I. laboratories might be applied to the shadow areas, lending the noir-like images a more realistic appearance. "Subconsciously, [the color shifts] stimulate you to keep watching," notes Cook. "[The image] looks normal, but you're not quite sure what's a little unusual about it." The modified color shift was just another example of the detailed minutia that Wagner used to create the show's unusual look.

The series' flashback sequences of criminal activity were where Wagner really tested the visual boundaries. "We really stretched things there," Cook agrees, "and I know Roy had fun with that — not being confined to what everybody else does on TV, but being able to experiment with whatever comes to mind. For the flashbacks throughout

Episode 15 ["Too Tough to Die"], Roy wanted something really highly contrasted, with the whites blown out and the color desaturated, so the look would have a crispy feel."

Elaborates Wagner, "That was hyper-realism. We shot and transferred at 30 frames per second to heighten the reality of motion. The director, Richard Lewis, and I wanted the [flashbacks] to have virtually no color and a lot of grain. Looking at the original negative, you see that it was pretty dynamic because I didn't light anything, and yet all of the necessary information was on the negative."

Adds Cook, "We basically took the blacks and the whites and stretched them away from each other, then desaturated it. In this case, we wanted to keep the skin tones so that you could still see them separated from everything else."



Early in the season, flashback looks were accomplished using telecine filters during the dailies transfer, but that approach was eventually abandoned due to time constraints in telecine and limited possibilities in the final tape-to-tape correction. For one of the flashbacks in Episode 3 ("Crate and Burial"), the densest diffusion filter was applied. Once the tonal range was stretched out, the highlights blew out and the blacks went completely black, but a diffuse, blooming halo surrounded those blacks. "It was a really cool effect that we came up with," says Cook. "If we had done that in-camera, we would have been locked into it. If they didn't like it, there would have been a reshoot with more money spent, et cetera. Here, we got into telecine, figured out what we wanted to portray and came up with a look for it.

"VIP is a new process that allows directors of photography to have the range of their negatives so they can do what they want visually," he summarizes. "I think a lot of cinematographers who understand [the tool] like it."

Having these post tools at his disposal allowed Wagner the opportunity to experiment, take risks with his imagery, and make each episode look different. "The show was constantly evolving," stresses Wagner. "I kept trying to find new ways of approaching the visual storytelling so that it wasn't boring."

Though the first season of the highly successful *C.S.I.* tested Wagner's creative resolve, he reasoned that "struggles are all a part of life's lessons." But ultimately, he says, the politics of cinematography forced him to alter his approach too often. "Bruckheimer had demanded a show so stylistically different that a channel-surfing audience would be forced to stop and view the unusual-looking images," Wagner notes. "In time, pressure was exerted to create a more 'beautiful light' approach to the

photography.”

Although Wagner had won Emmys for his romantic cinematography on the pilots for *Beauty and the Beast* and *Quantum Leap*, he found the compromise very difficult. “You cannot have an aggressive show in which you are seeing things as a voyeur and trying to capture that immediacy, yet also have a perfectly placed light whenever an actor’s head turns,” he explains. “It just doesn’t work.” For Wagner, it became too much of a compromise, and he stepped down. “In a way, it’s very funny, because I was trained to light with the perfectly placed key light,” he says. “I just felt that this compromise removed too much of what made my approach unique.”

The producers, however, did present Wagner with the opportunity to direct his last episode on *C.S.I.* “Every cinematographer should try it,” he advises. “It’s all too easy to complain about directors and their choices, but if you’ve never directed before, you have no perspective to make those judgments.”

Wagner left the crime scenes behind to take on his next photographic challenge, actor/director Diane Keaton’s beautifully saturated TV pilot *Pasadena*. Stylistically, the project is at the opposite end of the spectrum from *C.S.I.* In keeping with his adventurous journey as a cinematographer, Wagner has opted to photograph the pilot with Sony’s hi-def digital 24p cameras. “I remember when I was a kid, reading an article about Robert Surtees, ASC in [the February 1968 issue of] *American Cinematographer*,” he reflects. “He had just finished photographing *The Graduate* and was doing *Doctor Dolittle*. Surtees stated that he loved the challenge of photographing different styles. That’s exactly what I want to do. What I love about cinematography are the chance to take different risks and the potential to discover something new.” ■



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Television's Top Guns

by Rachael K. Bosley,
Wonsun Choi, David
Heuring, Jay Holben, Lucy
Nicholson, Jean
Oppenheimer, Christopher
Probst and Eric Rudolph



This year, the ASC expanded its television categories for the Society's annual awards ceremony, which was held on Sunday, February 18 at the Century Plaza Hotel in Los Angeles. In addition to honoring the cinematographers of regular series, the ASC opted to break its traditional MOW/Miniseries/Pilot category into two separate groupings: Network Television and Basic or Pay Television. This allowed the voting members to salute more of their peers for the top-notch cinematography that has dazzled TV viewers.

Naturally, AC has expanded its coverage to include these additional nominees, who took time from their

always-busy schedules to analyze the creative and technical methods they employed on their eye-catching entries. Without further ado, we present our annual roundup of television's top cinematography for the year 2000.

*Denotes winner of ASC Award

REGULAR SERIES

Thomas Del Ruth, ASC*
The West Wing, "Noel"

This year's ASC Award winner for his work on *The West Wing*, Thomas Del Ruth, ASC, also earned an ASC Award nomination and an Emmy

Award for the show's pilot episode last year. The cinematographer previously won two ASC Awards in 1995 for the pilot and "Day One" episodes of *ER*, and he was also nominated in 1994 for the trend-setting pilot for *The X-Files*. Del Ruth also received Emmy nominations in 1980 for *The Last Convertible* and in 1995 for *My Brother's Keeper*. His other TV credits include the pilots for *JAG* and *Charmed*, and such telefilms as *Shattered Image*, *Danielle Steele's Full Circle*, *Asteroid*, *When the Cradle Falls* and *Barbarians at the Gate*. His feature credits include *Stand By Me* (which earned a 1986 ASC Award nomination), *Fandango*, *Quicksilver*, *The Running Man*, *Look Who's*

Photo by Marvin Lopez.

Talking, Look Who's Talking Too and *Kissing a Fool*.

Now at the end of his second season on the critically lauded *The West Wing*, Del Ruth maintains that it's the consistent quality of the writing and the characters that keep him interested in the material. "Thematically this show deals with the government, and although it has a particular attitude in how it depicts the government, my take on that photographically is that there's a sense of mystery in how government works," Del Ruth says. "There is always a half-truth lying somewhere, about which we are not being told. That [idea] is represented through my work more in terms of shadow detail — having deep shadows that the audience can't see into. I try to deal also with a broader theme throughout my work on the series, rather than just focusing on each episode."

After shooting 44 episodes, with many scenes taking place in the same sets, Del Ruth acknowledges that the challenge lies in keeping his work fresh. "There is only so much of a 'look' you can provide in terms of depicting what people expect the show to look like," he opines. "I can't suddenly drop in the photographic style of *The X-Files* just to satisfy myself visually. I have to stay in tune with what I've done before."

"This season, we've also been [dealing with] budget problems," he adds. "It seems to be the case with popular shows that once they reach their second season, they wind up having real or imagined budget problems. So we are now forced to do mostly interior shows without going outside at all, which I find very constrictive. Because we're now stagebound so often, it's increasingly difficult to find new and interesting ways to photograph material that we've essentially visited before. However, I still maintain interest because the writing on the show is so brilliant."

The episode "Noel" was particularly involving for Del Ruth because it was built upon the "culmination of the season's two-hour opener, in which there was a fusillade of bullets and the president was possibly shot. As we found out in the first three or four episodes this season, however, it was Josh Lyman [played by Bradley Whitford] who took the hit. 'Noel' centers around Lyman's post-traumatic-stress syndrome from that incident, and I felt that it was the most significant portrayal of his condition, especially since it's set against the Christmas season. I found the juxtaposition of the merriment of the holidays and the seriousness of his condition to be a very interesting and compelling drama, and the visuals suited that conflict."

The visual contrast in "Noel" takes shape through the use of Lyman's flashbacks to the assassination attempt. "The trigger for Josh's flashbacks was musical notes," Del Ruth details. "When we showed those flashbacks, we went to a desaturated look that incorporated bleach-bypass on the negative. In that way, there was a substantial textural difference between the normal look of the show and the flashback sequences."

"The flashbacks were shot with Kodak's Vision 800T [5289] stock, which I pushed to 1600 ASA; I then bypassed the bleach and further desaturated it by 50 percent in the transfer. Also, I normally use a black net behind the lens, but for the flashbacks I removed the net to increase the contrast even more. I also used much harder light. Usually, I'll fire light through some sort of synthetic material — quarter- or half-grid, opal, Hampshire frost, whatever — but for the flashbacks, I used a lot more hard light. I like hard light, even though it's not used as much anymore. I learned cinematography with hard light, but I don't get a chance to use it very often in a tradi-

tional, black-and-white sense. 'Noel' presented an opportunity to do that, and it made those scenes all the more worthwhile."

— Christopher Probst

Billy Dickson

Ally McBeal, "The Musical Almost"

Remote-control toilet flushers, rene-gade tree frogs, secret hiding places in co-ed bathrooms and delusional guest appearances by pop singers Barry White and Barry Manilow — it's all in a day's work for cinematographer Billy Dickson on the hit Fox comedy *Ally McBeal*. Dickson's nomination marks the second time the ASC has recognized him for capturing the eccentric escapades of Boston's bawdy barristers at the firm of Cage and Fish. In 1999, he was nominated for the episode "Silver Bells."

When it came time to select an episode to submit for consideration this year, Dickson turned to the most unique show of the lot, the aptly titled "The Musical Almost." The episode is a return to the years of Busby Berkeley and Vincente Minnelli — well, almost.

"It was different from all of the other shows we did last year," Dickson says. "I always work to achieve a consistent look for the show, but this episode gave me a bit more license to play with colors than I normally would. 'In particular, I played more with windows; instead of just having daylight come through them, I painted them more with an orange or blue light, adding some touches to make it all just a bit more surrealistic. The show is naturally surrealistic a lot of the time, but this episode really jumped over the line in that respect, because people just burst into song for no particular reason. I thought, 'We'll just do that, too — I'll burst out into song, visually speaking.' It was a lot of fun."

Dickson began his motion-picture career as a loader and worked

Opposite page: Most of this year's ASC Award honorees, from both the theatrical-release and television categories, attended this year's annual Nominees Dinner, held on February 16 at the Society Clubhouse. Front row, from left to right: Brian J. Reynolds; Robert McLachlan, CSC; Rene Ohashi, CSC; John Mathieson, BSC; Charles Wheeler, ASC; Dennis Smith, ASC; Billy Williams, BSC; Vittorio Storaro, ASC, AIC; and Awards co-chairman Bud Stone. Middle row: Billy Dickson; Caleb Deschanel, ASC; William Wages, ASC; Student Award winners Lukas Ettlin and Sarah Levy; Roger Deakins, ASC, BSC; and Thomas Del Ruth, ASC. Back row: Awards co-chairman Owen Roizman, ASC; Bill Roe; Frank Johnson, ASC; Anghel Decca; Ernest Holzman; and Shelly Johnson, ASC.

Television's Top Guns

his way up to the cinematographer's seat in the early '80s. At the end of that decade, he tried his hand at TV on the Western telefilm *Desperado IV: Badlands Justice*. He quickly added a number of other telefilms to his résumé, working on an average of eight per year; they include *Frequent Flyer*, *A Promise to Carolyn*, *Fast Company*, *As Good as Dead*, *Labor of Love*, *Night Owl*, *Vestige of Honor* and *Blind Need*, as well as the pilot for *Babylon 5* and work on the series *Deadly Games* and *The Big Easy*.

While working on *The Big Easy*, Dickson collaborated with director Jim Frawley, who was then hired to shoot the pilot for *Ally McBeal*. Frawley asked Dickson to shoot it for him. "Both of us wanted a lot of natural light, because there are a lot of windows in the show's office sets," Dickson notes. "We play things in very tight close-ups and use long lenses — mainly a 75mm or longer — to throw the backgrounds out of focus as much as possible [and keep the attention on] the actors' expressions and what they're saying."

"It's a sunny day in Boston every day!" he adds with a laugh, referring to the show's habit of placing a hot slash of light across the actors' chests to represent direct light from a window. "That keeps the show lively and helps to play up the comedy; if the look were drab and down, it just wouldn't make sense."

"I try to play with realism within the show's quirky surrealism by keeping faces alive and backgrounds up. I strive to maintain as much realism as I can with all of the gags that we have and all the fantasy elements that are constantly thrown in."

Dickson shoots the show on Fuji Super F-500 8572 stock, which he considers "a softer film that still has contrast and blacks that you can build in. I overexpose a bit to dig into the negative, but that's kind of a general rule for telecine."

Now at the end of his fifth

season on the show, Dickson still fine-tunes its overall look. "My biggest challenges are maintaining the look throughout the course of the year and trying to keep everyone happy. I work to give the show a unique look so that you can turn the channel and immediately say, 'Oh, that's *Ally McBeal*.' That's not to take anything away from the storylines, of course; the script is the most important element of the show, but my job is to tell the story in a great visual way that helps to move it along."

The show is shot at Raleigh Studios in Manhattan Beach, California, and telecine is done at Encore Video in Hollywood. A fiber-optic connection links the facilities, and Encore provides a calibrated monitor for the stage end of the chain. "They normally time the show during the day, and the colorist will send a feed over to the stage," Dickson explains. "If I have the time, I sit down at the monitor and give him notes over the phone. I'm always working to maintain the integrity of the look, but at the same time, we go through subtle changes every week. We're always molding things and trying something new."

— Jay Holben

Frank E. Johnson, ASC

Touched by an Angel, "God Bless the Child"

A crucial chapter in the tortured life of jazz great Billie Holiday is reimagined as a case of angelic intervention in "God Bless the Child," an episode of the long-running CBS series *Touched by an Angel*. The singer's dramatic voice and troubled life are used by the earthbound angel Monica (Roma Downey) to try to reach an angry, pot-smoking, African-American teen bent on moving to much harder substances.

For the Billie Holiday segments, the show's creators flashed back to 1939, when Lady Day courageously debuted the Lewis Allan song

about lynchings of blacks, "Strange Fruit," at New York's Cafe Society club. To stage the extensive period scenes, an elaborate set was built at a warehouse studio in Utah, where the series is shot.

To bring the colorful era to life, cinematographer Frank E. Johnson, ASC worked to "enhance" the rich, multi-textured Cafe Society nightclub set in a manner consistent with the look of what he calls "Forties nightclub movies." In doing so, he emphasized a mix of rich colors and a shadowy atmosphere.

For overall lighting, Johnson mainly employed small tungsten instruments (750-watt to 2K Mole-Richardson units), some of which were hung from pipe grids. He supplemented the hanging lights with both cool and warm practicals wherever appropriate, including those built into the set by the art department and several he added to the mix.

For example, the art department placed fluorescent fixtures under the landing of the stairs that led down to the basement-level club and under the glass-block bar's bottle shelves. To add to the club's eclectic color mix, Johnson gelled both sets of fluorescents with Full Party Blue gels, creating a rich, evocative and somewhat otherworldly effect. To further add to the crazy-quilt of jazzy illumination, Johnson used a warm, practical globe to illuminate the wall by the stair landing, and fluorescent tubes to light both sides of a poster on the wall.

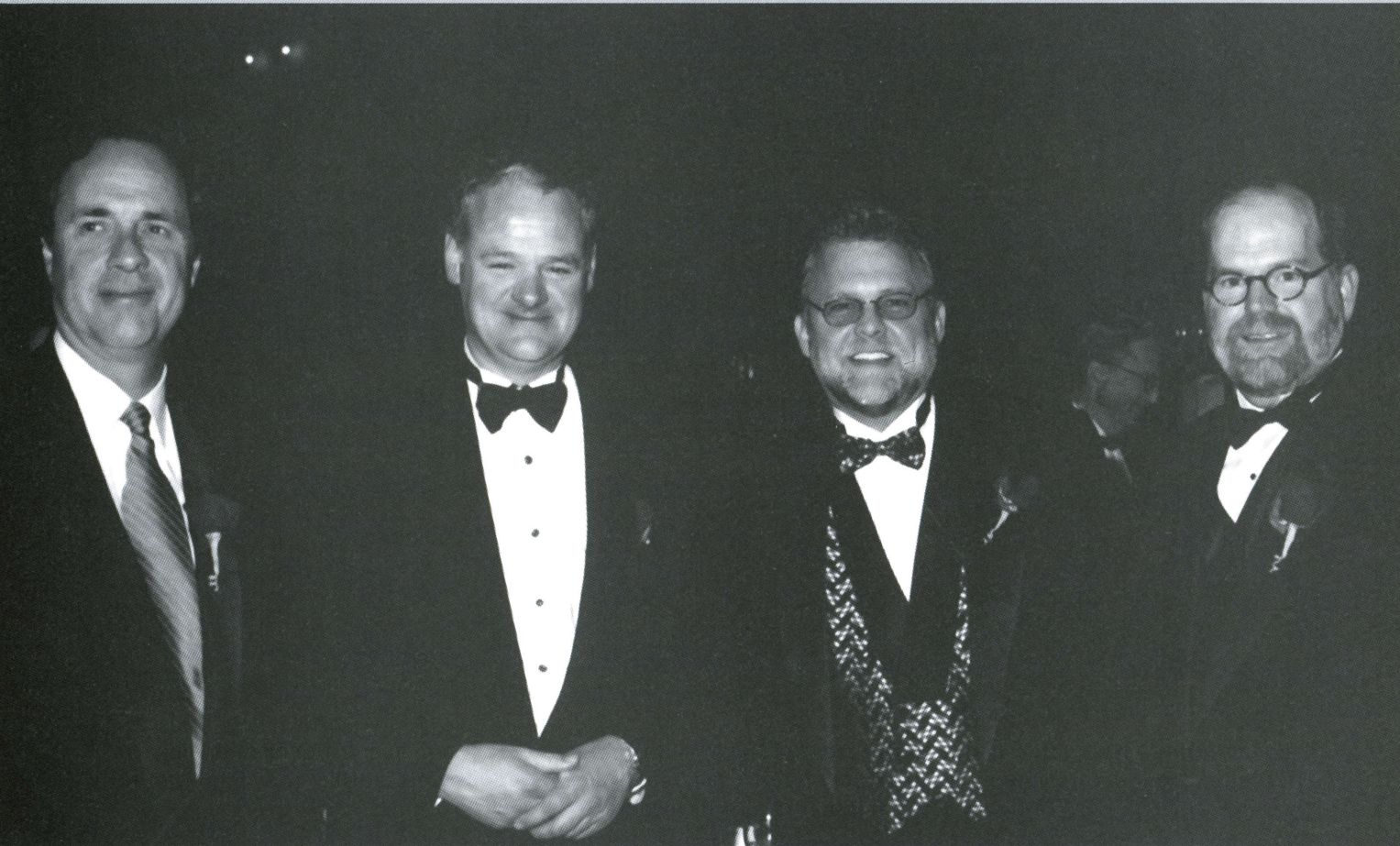
The set decoration was quite dark overall, thanks to brick walls, blue drapes and large murals, so Johnson picked up the highlights wherever he could with more small Mole-Richardson tungsten units. The intimate, enveloping darkness was also cut by several lively neon signs.

Small tungsten instruments also served as keylights for close-ups. To create the dramatic, half-shad-

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From left to right: **Dennis Smith, Robert McLachlan, Billy Dickson, William Wages.**

Billy Dickson...Ally McBeal
Episodic TV Series

Dennis Smith, ASC...The Practice
Episodic TV Series

Robert McLachlan...High Noon
Movie of the Week/Pilot-Cable or Pay TV

William Wages, ASC...The Moving of Sophia Myles
Movie of the Week/Miniseries/Pilot-Basic Broadcast TV



Television's Top Guns

owed keys, 750s or 1Ks were aimed as sidelights through frames of 129 diffusion. Fill was provided by similar units bounced into foamcore, and the actors were separated from the backgrounds with standard back-lighting. A low level of smoke was added to the nightclub scenes to further enhance the ambience.

Back in the present, Monica leads the young woman and her concerned grandmother on an after-hours tour through a museum exhibit on injustice, which includes photographs of lynchings. The set was built inside a corridor at a Utah university and was quite narrow. "It was difficult to light and get the camera angles," Johnson recalls. The exhibit's photographs were lit from above with museum-style practicals. As a result, a good deal of the light bounced off of the white walls, lending the scene a disquieting atmosphere. Johnson notes that the look of this sequence differs from earlier gallery scenes due to the use of "less overall ambient lighting, more cross-key and backlighting, and slashes of blue-gelled light" against the walls.

Late in the episode, when Monica reveals her identity to the troubled young woman, the show's signature lighting cue appears and Downey's curly, reddish hair is suffused with an intense, orange-yellow side glow. "To create that effect, we hang a backlight gelled with Heavy Orange and Yellow Party gels and bring it up on a dimmer," Johnson reveals. "The color is further enhanced in postproduction."

Touched by an Angel is filmed with two Arriflex 535 cameras fitted for three-perf Super 35 pull-down. Johnson frames for NTSC and protects for the Super 35 1.78:1 widescreen image. A Moviecam Compact is also kept on hand for Steadicam work. His primary lenses are the Cooke 5:1 zoom on the A-camera and the 10:1 zoom on the B. Johnson and his team also use a set of Cooke S4 T2 primes, which the cine-

matographer says "are just terrific."

Each episode is shot in eight days, and "every day is a different location," Johnson notes. "We create the looks in a very short time upon entering the locations." Despite the lack of prep time, Johnson is pleased that he and his resourceful camera crew have been able to create "a consistent visual quality for the show."

— Eric Rudolph

Shelly Johnson, ASC

The Others, "1112"

Shelly Johnson, ASC is currently taking a break from TV to shoot the upcoming *Jurassic Park 3*. However, his work on DreamWorks' sci-fi series *The Others* earned him not only his third ASC Award nomination (following prior nods in 1989 for *The Jessica McClure Story* and 1997 for *Louisa May Alcott's The Inheritance*), but also his chance at big-screen glory. Although *The Others* was canceled after 12 episodes, Johnson's work on the episode "1112" impressed Steven Spielberg, who recommended him to *Jurassic 3* director Joe Johnston.

Directed by Bill Condon, who won an Oscar for the screenplay of his 1998 film *Gods And Monsters*, "1112" explores how grieving widow Kathy Allen (Christina Haag) reconnects with her husband Greg (Ted Marcoux) after his violent death. She is guided by *The Others*, a group whose members are linked by different abilities that allow them to reach into the supernatural world.

"Episodic television is a wonderful place to experiment," Johnson attests. "Our goal was to do something that was out of the ordinary, so we looked at a lot of the work of Darius Khondji [ASC, AFC] and Allen Daviau [ASC], who was a major supporter; I spoke to Allen routinely. I had a lot of questions about getting realism on a stage, and he would urge me to throw some-

thing out of balance, to avoid making the picture too 'polite.' He also told me that when he worked with Spielberg, he learned that there's not a light that's too bright or too dark. That's the rule I followed, and I found that television responds well to that kind of treatment. When you get too 'in the middle' with [lighting for] TV, it tends to turn to mud. You can work the extremes, crush the blacks, clip the highlights and saturate the color a little more, and it tends to respond in a way that film does not."

Johnson used split diopters in the Panaflex Platinum camera to capture the psychic brainstorming that *The Others* used to gain insight by the end of an hour-long episode. He says that the technique was inspired by Condon's arrival as director: "I looked at *Gods and Monsters* and noticed that he was doing it a lot; even on over-the-shoulder shots, he'd have a split diopter in the camera to keep the foreground shoulder sharp. It's very unlike episodic TV to use them. It gets very demanding on the actors, because it means that they're acting to the technical restrictions of a piece of equipment, and I always hesitate to ask a performer to do that. We couldn't pull focus, because if we changed focus on the background it would really throw the foreground off dramatically; we had to find a plane for the actors to occupy. But they caught on quickly and played off each other really well."

To convey the notion that everyday objects were radiating psychic energy, Johnson used parts of the sets as reflectors. For scenes set in a studio occupied by one of *The Others*, Johnson adopted the notion that "the energy contained in the scenes came from the energy in the room itself, so I lit that space with practicals and architectural sources. We lit the characters' faces with bounced light from the table they sit around. Overhead, we used a Source

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4, which is an ellipsoidal light that you can focus very sharply; it created a kind of soft, magical, golden glow on their faces.”

One the episode's lighting motifs is a Rembrandt-like beam of light used to symbolize an enlightenment that's just out of reach. Tension builds as characters fumble for insight and come closer to being hit directly by the bright white source. “We used a lot of those hot white sources, which represented the ideas that the characters were searching for,” Johnson confirms. “We were very careful about when we included the actors in the light.

“Bill picked right up on this near the end of our episode, when we had a series of shots that we called ‘what ifs.’ Kathy has to see what would have happened to her life if her husband hadn’t died. Bill and I worked with the white-light theme, and as we went through the ‘what ifs,’ they got progressively lighter and all of the transitions were done into white. Kathy spends a lot of time in shadow until the very end of the story; then, when everything comes to her, she’s bathed in white light. At the end, we cut back to her and she’s serene in her house; we just slowly dimmed the light off of her, bringing her back to reality — a reality that is now different for her.”

The Others was photographed on Kodak's Vision 500T 5279 emulsion, mainly at T2.8, with Primo lenses that Johnson relied upon to cope with the flare from the hot sources.

— Lucy Nicholson

Bill Roe

The X-Files, “Patience”

Cinematographer Bill Roe is no stranger to the ASC Awards ceremony. This year's nomination for his work on the thriller series *The X-Files* marks his third nod for the show in as many years; he won the ASC honor in 1999 and 2000, and he has

also earned an Emmy nomination for his cinematography on the hit series.

Roe got his start in the industry as a second AC for Victor J. Kemper, ASC, and he quickly moved up the ranks to become one of the most sought-after camera operators in Hollywood. He framed compositions for renowned ASC cinematographers Russell Carpenter, Michael Chapman, Adam Greenberg and Owen Roizman before taking the reins himself on the 1997 telefilm *Detention: The Siege at Johnson High*, which was produced and directed by Michael Watkins, ASC.

When *The X-Files* moved production from Vancouver to Los Angeles, series creator Chris Carter hired Watkins to help him run the show. Watkins, in turn, hired Roe to shoot the series. “Michael had also been a producer on *Brooklyn South*, which I was shooting before I got the call to interview for *The X-Files*,” Roe recalls.

With three seasons of “lighting for darkness” now under his belt, Roe has become the master of the no-light situation. “No-light is always the most difficult to do,” he maintains. “It becomes more what you can and can’t get away with than anything else. For this show, I pretty much have to light by process of elimination — I’m lighting from the only areas where I can put a light! When I look at the shot, the hard part is justifying whether it’s real. I usually set everything to my eye and try to make it all look good, but not every shot is perfect.”

The episode “Patience” follows FBI Agent Scully (Gillian Anderson) and her new partner, Agent Doggett (Robert Patrick), as they investigate a series of mysterious murders. They soon discover that the mayhem is the work of a vengeful human-bat creature who had been imprisoned decades before, but has since escaped to seek revenge on those who had a hand in his incarceration.

Such macabre tales are a staple of *The X-Files*, and Roe has grown accustomed to working with the unusual. “There is something in every show that makes us say, ‘How are we going to do this?’ We shoot a lot of tests! For ‘Patience,’ our wild card was figuring out the best method of making the bat fly in a believable and dynamic way. We wound up creating a wire rig that flew a stuntman just a few feet off the ground at incredible speeds. It really had a great look. There is always something new to figure out, which keeps me on my toes.”

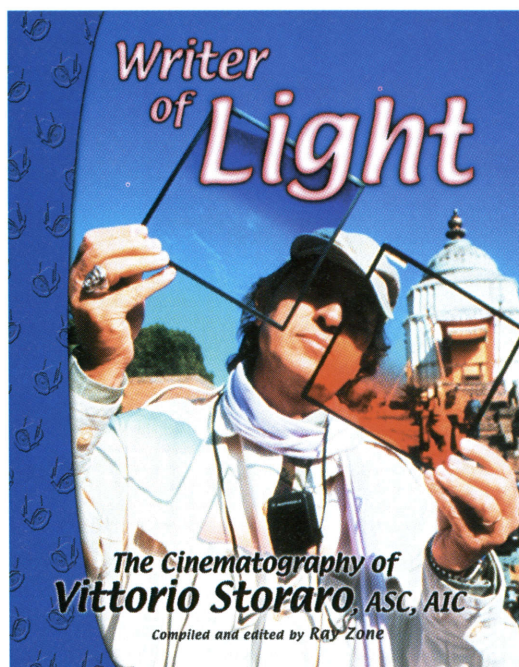
Roe confesses that he did some careful deliberating while deciding which episode he would submit to the ASC Awards committee this year. “I went through a lot of tapes, and I had a very strong gut feeling about ‘Patience.’ I’m not really sure why, but I like that episode a lot. One of the things I like to stay away from [when choosing a submission] is any heavy effects work. Don’t get me wrong — we do some really cool effects stuff. But sometimes it’s just basic cinematography that means a lot to me. This episode had some photography that I was very proud of.”

— Jay Holben

Dennis L. Smith, ASC

The Practice, “The Deal”

Dennis L. Smith, ASC learned about images from his father, who was a still photographer for NBC. He then cut his teeth as a news cameraman at ABC, where he received several Emmy and Peabody awards for his work. Smith made the transition to narrative work in 1979 as an aerial and underwater cameraman, and he eventually worked as an operator for such esteemed cinematographers as the late Jordan Cronenweth, ASC; Robbie Greenberg, ASC; Jan Kiesser, ASC; Donald Thorin, ASC; David Egby, ACS; Julio Macat, and Bruce Surtees. He advanced to the rank of cinematographer while working on



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—Warren Beatty

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the series *Picket Fences*, then moved on to shoot the pilot episode of *7th Heaven*. He shot his first independent feature, *God's Lonely Man*, in 1996.

Smith's edgy cinematography on the ABC hit series *The Practice* earned an Emmy nomination in 1998, and this year his work on the show brought him his first ASC Award nomination.

One of the most challenging sequences in "The Deal" sees attorney Bobby Donnell (Dylan McDermott) and his crew follow a SWAT team to the site of a nighttime forest raid. "There was snow on the ground, and the scene was specifically scripted so that the teams would pull up and turn off their headlights," Smith recalls. "They weren't using flashlights, and we were in the middle of the woods, so there was no artificial light source around. I essentially had to light a quarter-mile of forest at night so that we could see these SWAT guys running around in dark blue uniforms through dark green trees with glistening snow on the ground.

"Obviously, the potential for an extremely contrasty situation arose. I had a white surface that reflected light like crazy, and pretty much everything else was black. My best course of action was just to make sure that [all of the actors and visual elements] had edges to bring them out of the trees; I used a combination of 12K Par lights way up on a hill, quite far away from the set, along with a BeeBee light and six tungsten helium balloons. I let the BeeBee and 12K pars on the hill act as a stronger ¾-back moon source, and used the balloons to provide an overall neutral color-temperature ambience in the playing area. I was trying to find the right balance to give the scene the most realistic look I could, without getting into that dangerous area of underexposure where you can't see anything."

To add additional depth to the

sequence, and to help bring some of the extreme contrast into a more workable range, Smith employed about ⅛ of a mile of smoke tubing — polyvinyl hose that is filled with glycol-based fog. The hose has strategically placed holes that emit fog surreptitiously, allowing it to drift around and diffuse the light a bit more.

"I didn't worry as much about the exposure as I did the overall balance for the scene," the cinematographer admits. "After I lit the full area, I took a look and grabbed my spot meter and tried to figure out where I wanted to put the snow so that the rest of the elements would fall in smoothly. I always try to err a bit to the overexposure side, because I can always take it down and reduce the contrast later. For the forest sequence, I overexposed the snow about a stop, let everything else fall into the shadows, and then just made sure that there were always some back-crosses with the smoke. I was essentially exposing for the smoke in the air and the snow, and letting everything else fall into a degree of underexposure."

Smith has worked with Fuji's Super F-500 8572 stock since the show's inception. "I started shooting Fuji on the pilot for *7th Heaven*, and I've been quite a fan of the F-500 ever since. I really, really like its pastel quality and hexagonal grain structure."

Now at the end of his fifth season on *The Practice*, Smith credits the show's visual success to creator/producer David Kelley, who offers him free reign "99.9 percent of the time. I'm always trying new things and trying to stretch the look as much as I can, whether that means playing with the colors or different types of light, or lighting off of different surfaces. Keeping the imagination open to create just the right look is all part of the fun."

— Jay Holben

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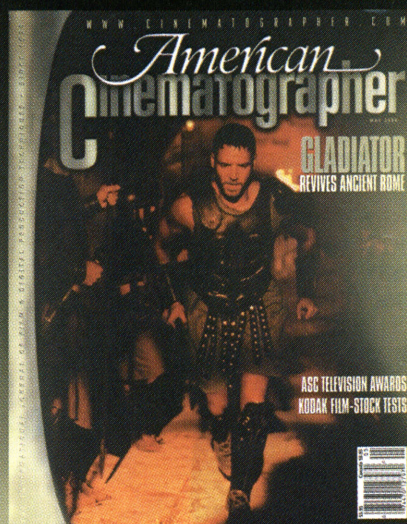
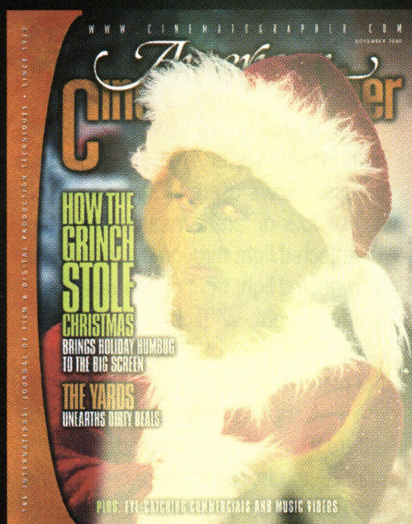
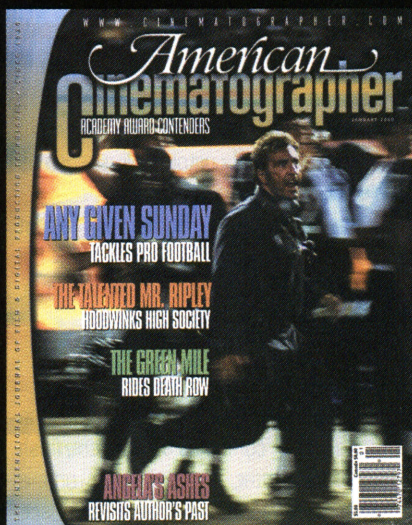
Cora Unashamed

Tight budgets and short production schedules are a fact of life on TV movies, providing a real test of a cinematographer's ingenuity, creativity and patience. Rather than curse the lack of time, money or equipment, however, pros view every limitation as a new opportunity for resourcefulness.

On *Cora Unashamed*, cinematographer Ernest Holzman confronted just such a situation while shooting a scene in which the title character and her young daughter walk down a country path that traverses a lush field. "The director, Deborah Pratt, wanted a crane shot," Holzman recalls, "but we couldn't afford it. So I got a cherry picker, mounted a camera on it, released the hydraulics and let it sink."

The PBS movie not only brought Holzman his first ASC nomination, but also his first win. He first studied cinematography at New York University, then spent two years at the American Film Institute. Holzman began his career by interning with the late Jordan Cronenweth, ASC on *Cutter's Way*. He continued working with Cronenweth on such classics as *Blade Runner* before moving on to shoot commercials. For the past 10 years, he has alternated between commercials and series television; his TV credits include *thirtysomething*, *My So-Called Life* and *Gideon's Crossing*.

All of the locations for *Cora Unashamed*, save for one set, were shot in Ames, Iowa, over 21 days. The story opens in 1906 and spans 30 years in the life of a warm, maternal, African-American woman (Regina Taylor) who finds herself increasingly at odds with her rigid, upper-



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middle-class employer (Cherry Jones); a mother herself, Cora finds fault with the way in which the latter woman is raising her own daughter. More than half of the film's scenes take place inside the Jones's spacious, well-appointed home.

Aware that many day-interior scenes would have to be filmed at night and night-interior scenes during the day, Holzman opted to create a contrasty, soft-lit look for day interiors and a hard-lit, higher-contrast look for night interiors. The main light sources for the day interiors were 20Ks positioned outside the windows, projecting into the house. "I sourced through the windows with tracing paper, which bloomed the room with a diffused, shadowless light," he says. "I then used Duvetyn as negative fill to create contrast."

For night interiors, Holzman generally used 650-watt Tweenies and 1K Babies. "I played the night interiors with hard light at eye level, usually from the side or $\frac{3}{4}$ front, without fill," notes the cinematographer. "I generally didn't use backlight or liners to supplement the front-light."

Night exteriors and all interiors were shot on Kodak Vision 500T 5279 stock; day exteriors were rendered on Kodak EXR 5248. Holzman favored wide apertures on the show's exteriors because he was using grad filters with long lenses. "I used grads a lot on this show," he says. "I would use a two- or three-stop grad to make a blue sky darker, or a four-stop grad to photograph the sun in a scene."

At times he used grads indoors to take light off a background. "Sometimes it takes 10 or 15 minutes for the grips to take light away, so instead, I'd just drop a grad in and do it quickly in the camera," he points out. "Of course, that only works if you don't have actors walking into the filtered area."

One memorable composition frames Cora as she stares out the

kitchen window, watching her daughter and her employer's daughter swing under a giant tree. "We photographed her reflection in the glass," Holzman details. "Shots like that generally have to be done by eye. If it looks good in the viewfinder, you just shoot it. We had an enormous amount of light on her — a 20K outside the window at a 60-degree angle to the camera, just to get that little bit of exposure. We were using a regular, clear pane of glass. I hung a solid behind her to make the clear glass more of a reflective surface."

When time and money are in short supply, it's a great asset to have good weather, and in this regard, Holzman and his crew had the gods on their side. According to the cinematographer, the weather cooperated beautifully on every day of the shoot. "We'd shoot three scenes in three different time periods, all in one day, and we'd get three different looks from the sky: white and overcast in the morning; puffy, white clouds against a blue sky at midday; and a low, orange sun in a clear, cloudless, blue sky during the evening. We were incredibly lucky with the weather."

— Jean Oppenheimer

Sergei Kozlov

Jason and the Argonauts

The son of an architect and a professional pianist, Moscow native Sergei Kozlov has been developing his craft since his youth. During his teens, he was not only an avid cartoonist, but also an experienced still photographer. Kozlov set up shop in the bathroom of his family's apartment, making usable-sized rolls from 1,000' black-and-white stock purchased through the black market. He developed 41-42 frames per load. "It was the most enjoyable time — sitting there, masking the picture, cropping," Kozlov recalls. "And I still remember how to do it [after making] so many rolls with my

hands." This early effort paid off when Kozlov gained admission to Moscow's VGIK film school, and later to the International Film & Television Workshops in Maine.

Since he began working as a cinematographer, Kozlov, who now lives in Los Angeles, has demonstrated an affinity for bounced light. His strategy further involves the creation of stark contrasts between light and shadow. "That's the next step, when you're playing," Kozlov says with an enthusiasm unabated by his years of experience. His signature style has gotten the industry's attention. In 1998, Kozlov earned an Emmy nomination for his work on NBC's *Merlin*, and this year he received an ASC Award nomination for the NBC miniseries *Jason and the Argonauts*.

On *Jason*, Kozlov sought to highlight the dangerous overtones of the mythical story, which follows a young man's journey to claim his rightful position as king after the treacherous murder of his father. While filming this quest, Kozlov was bold enough to allow certain scenes to contain pockets of indiscernible blackness.

A striking example of this approach is a prison scene in which Jason's mother warns him about the ill-fated nature of his mission, just before he sets sail in search of the Golden Fleece. "That scene was about the shadow-and-light game," Kozlov offers. "Trying to make that little room interesting was the tricky part. We set up a 5K augmented with a $\frac{3}{4}$ CTB gel, and used a bounce board to make it soft and very gentle. The board was about 10 feet away from the wall outside the prison set, pointing down at 45 degrees into the window. Attached to the ceiling inside the cell, we had a four-bank Kino Flo angled about five or six feet above the actor. At the edge of the frame, to cut the light, we also set up some 'magic arms' with little flags created from black wrap. A silver

reflector picked up the key light as a soft kicker. The actor [Jason London] had to walk a matter of inches into the key light, and he was able to say to himself, 'Yes, I feel the light on my nose and now on my eyes.' He did it perfectly."

For the reverse-angle setup, shot with a 40mm prime lens, Kozlov took care in lighting the space just outside the prison cell by using a ¾ CTO gel on a 1K, with 251 diffusion on the barn doors. The light was bounced onto a soft silver reflector and was exposed at two stops under the T2.8 key. A shadowmaker, capable of creating numerous flicker combinations and used throughout the project's night scenes, simulated the effect of the onscreen fire in the background.

Kozlov relied on two of his favorite stocks throughout the show: Kodak Vision 320T 5277 for day scenes, and Vision 500T 5279 for night work. Panavision's lightweight Millennium camera (which proved excellent for Giraffe crane or hand-held sequences) served as the A-cam; the unit was fitted with spherical Primo lenses or the 4:1 or 11:1 Primo zooms. The B-camera was a Panavision Gold II.

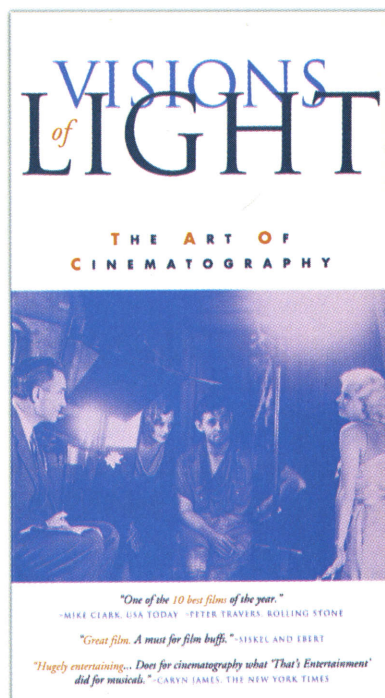
The production shot in and around Antalya, Turkey, and in London's Shepperton Studios for three months during the winter of 1999. While the gods spared this \$24.6 million epic from seasonal storms, chasing Apollo for day exteriors was a different story. To round out the sun's harsh rays on the actors' faces, Kozlov angled either 12' x 12' or 20' x 20' silks behind the camera. To shoot night scenes on the open sea, Kozlov employed 12K Par lights, which could be camouflaged in the mountains or set on mobile barges. Moving shots were done with the help of a speedboat carrying a crane and a Libra mount.

To facilitate day-for-night sequences, Kozlov underexposed the Vision 5277 at T5.6, employing a .9

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ND and a .3 or .6 ND combination, along with an 82A Tiffen blue and a ¼ or ½ Tiffen Black Pro-Mist, depending on the size of the lens. He notes that with the filtration in place, “you can hardly see anything through the lens, but you know that it will be there, so you rely on [your experience].”

— Wonsun Choi

Brian J. Reynolds

Papa's Angels

Cinematographer Brian J. Reynolds says that his sixth ASC Award nomination was special because it proved to him that he was versatile. “When you do something for a long time, you tend to get pigeonholed,” he asserts. “You become the guy that does the shakycam or the guy that’s doing the real contrasty lighting ... like on *NYPD Blue*. When I’m given the opportunity to shoot something completely different from anything else I’ve done, it’s really satisfying. We cinematographers are capable of creating many different looks, and *Papa's Angels* helps open other people’s eyes to that fact.”

Of course, Reynolds had already produced compelling evidence of his expertise; he was nominated for an ASC Award every year during his influential stint on the series *NYPD Blue* (1993-1996), and also for the pilot of the series *Civil Wars* (1991).

The post-Depression-era film *Papa's Angels* portrays the lives of a banjo-playing Appalachian father (Scott Bakula) and his four children, who struggle to deal with the death of their mother (Cynthia Nixon) just before Christmas. To immerse themselves in the period and get a feel for backwoods settings, Reynolds and director Dwight Little watched two Michael Apted films, *Nell* [shot by Dante Spinotti, ASC] and *Coal Miner's Daughter* [shot by Ralf Bode, ASC]. “We decided early on that this film would make use of a little more

color,” the cinematographer recalls. “The challenge was that the cabin the family lived in would be non-electric. It was a time when a lot of city people had electricity, but country people were still using oil lamps and kerosene. So that determined the look somewhat.”

In planning the 22-day shoot, the filmmakers had to factor in the youth of the actors playing the children. “What struck me immediately about the script was that every scene featured four, five or six characters, and we knew we’d have children who were on a tight clock,” Reynolds says. “When I got into the lighting philosophy, I knew I had to come up with a plan that would illuminate the whole set as opposed to individual shots. We hooked up the family’s cabin to a 24-channel dimmer board, and I had different lights that I had pre-set for different areas. We also shot virtually every scene in the movie with two cameras; it’s a style that Dwight and I both like a lot, and it’s also a way to capture moments. Once in a while, during some of the scenes around the dinner table, I would jump on the B-camera and steal some shots of the younger kids — just little pieces that helped to tell the story and added a more candid feel to the scene.”

The family’s hub was a cozy log cabin custom-built on a practical location in Calgary. The cinematographer lit the home with a naturalistic blend of sunlight, oil lamps and firelight. “Behind each of the oil lanterns we rigged a peanut-size, 150-watt quartz bulb that we had on a separate flicker-box circuit,” he details. “Even though oil lamps don’t flicker that much in real life, that technique subliminally gives them a much more realistic quality. We used them as fill in the day scenes and as a source for night scenes. When we wanted to create a bit of backlight for separation against the dark brown cabin walls, I used either a Tweenie or a Pepper with ½ CTO as if it were sourcing off of one of the oil lamp

practicals, and I’d also put it on a flicker-box. All of the lights had a small amount of flicker and were on different circuits, flickering at different rates. That gave the lighting a wonderful sense of movement.

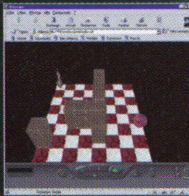
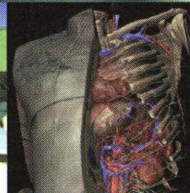
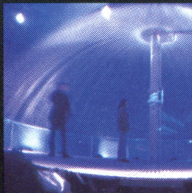
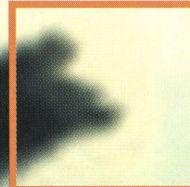
“For the day scenes, I used 4K and 6K HMI Pars outside the windows with ½ or ¾ CTO so the ‘sun’ would be semi-warm. I’m a big fan of hard light. I use the HMIs with just the narrow lens, or sometimes I’ll even pull the lens and go direct with the hard beam straight through the window, [which] I think looks more like sunshine. I also used my famous ‘steelies,’ stainless-steel mirrors; they’re dappled a little bit, so when you shine an HMI into them and reflect the light through a window, it creates a natural pattern that doesn’t look like a movie-light beam. For additional ambience in the day scenes, I had a couple of 1200-watt HMIs rigged in the ceiling of the cabin, with unbleached muslin bounce to pick up the ambience a bit.”

Papa's Angels was photographed entirely on Kodak Vision stocks: 320T 5277 for day interiors (sometimes with an 81EF filter on the camera), 500T 5279 for night interiors and exteriors, 800T 5289 for large night exteriors, and 250D 5246 for most of the day exteriors.

One key to Reynolds’s cinematic strategy is his scrupulous attention to the subtle changes in light throughout the story. “I think people are affected by the look of the time of day when they watch a show; a lot of times it’s subliminal, but I think it helps to propel the story and to convey the passage of time within a script,” he maintains. “Some films and TV shows have set day-interior and night-interior looks, and that’s it. That might seem like a faster way to work, but it really doesn’t take much more time to make the nuances of different times of day come to life on the screen.”

— Lucy Nicholson

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Television's Top Guns

Eric Van Haren Noman

King of the World

"A camera is a camera is a camera." So says cinematographer Eric Van Haren Noman, who adds, "Having all the technical knowledge doesn't make you a desirable entity in filmmaking. It's necessary, but there are plenty of people who know how that works, and know it better than I do. [The important thing] is vision."

Van Haren Noman's vision on the ABC telefilm *King of the World* brought him his third ASC Award nomination; he was previously nominated in 1989 for *Lena: My 100 Children* and in 1990 for *A Cry for Help: The Tracy Thurman Story*. The cinematographer earned an Emmy in 1998 for the telefilm *What the Deaf Man Heard*, and his other telefilm credits include *The Truth About Jane*, *Member of the Wedding*, *The Love Letter*, *Lies He Told*, *Menendez: A Killing in Beverly Hills* and *Jonathan: The Boy Nobody Wanted*.

Born in Holland, Van Haren Noman came to America 15 years ago by way of England, where he worked his way up in the film industry. He started out as a clapper boy and subsequently got his break in the mid-1970s as camera operator for Oswald Morris, BSC on *The Man Who Would Be King* (1975). "[I was working with] such great people," Van Haren Noman remarks. "It was wonderful but very stressful, because I just had my gut to go by. I wasn't that experienced; I just survived."

The cinematographer had become an accomplished documentarian by the time he began working in American television. He captured indelible images at the 1972 Olympics in Munich, for which he earned an Emmy for Outstanding Individual Achievement in Sports Programming, and served as camera operator on *The Greatest* (1977), a documentary about heavyweight champ Muhammad Ali.

Van Haren Noman returned to the subject of Ali on *King of the World*, a period piece that tracks the rise of boxing phenomenon Cassius Clay. The cinematographer used everything from 150-watt household bulbs to powerful directional lamps. Armed with an Eclair camera with a fixed-focus 10mm lens, he got into costume to shoot alongside his camera operator and assistant for the weigh-in sequence prior to the climactic fight between Clay and Sonny Liston. Film lights served as practicals. "We shot it raw, just as I would have 30 years ago during my documentary days," Van Haren Noman says. "The director, John Sacret Young, allowed us to roam and shoot whatever we wanted to shoot, and it took us about four hours. We did it eight or nine times, but each time we concentrated on different elements. We used Kodak Double X stock and exposed for the key at T2.8. Some of the shots are overexposed and underexposed, but that doesn't matter. What's so interesting about it is that it feels so real, like material from that day and that time."

In addition to his own recollections of Ali, the cinematographer took cues from historic photographs and archival footage of the champion. The production team went to painstaking lengths to match elements of the period.

Shot entirely on location over 22 days in Houston and Galveston, Texas, the telefilm cost a little over \$6 million. It was Van Haren Noman's first collaboration with producer/director/writer Young, whose TV credits include creating the series *China Beach*. "He has great vision and wonderful ideas, and he inspired me to no end," Van Haren Noman says. Addressing his role in the collaborative act of filmmaking, the cinematographer concludes, "Cinematography is the expression of the elements through the eyes of the director. When I can translate the ideas and images that a director has

in his head onto film, then I have done a unique job. If the cinematographer is in tune with the director and the director is good, watch out, because you're going to see some great work."

— Wonsun Choi

William Wages, ASC

The Moving of Sophia Myles

A seven-time ASC Award nominee, William Wages, ASC has won the prestigious award twice, for *Riders of the Purple Sage* in 1997 and for *Buffalo Soldiers* in 1998. The cinematographer's first ASC Award nomination was in 1989 for *Gore Vidal's Lincoln*. He was twice nominated in 1991 for *Caroline* and *Voices Within: The Story of Truddi Chase*, and he earned another nomination in 1992 for the pilot of *I'll Fly Away*. His most recent TV credits include *Miracle in Lane 2*, *A Father's Choice*, *Purgatory*, *On the 2nd Day of Christmas* and the pilot for *Breaking News*. His feature credits include *Iron Will*, *In the Army Now*, *Love Potion No. 9*, *Down in the Delta* and the forthcoming *Wooly Boys*.

"*The Moving of Sophia Myles* is a story of a woman [played by Della Reese] whose minister husband dies in what we're led to believe was a suicide," Wages details. "However, when it becomes time for Sophia to move out of the parsonage, a church that her father had built, she decides that she's not going to move. The story focuses on the relationship between her and the members of the church. No one wants to hurt her, but at the same time, a new preacher has to move in. She finally comes around at the end."

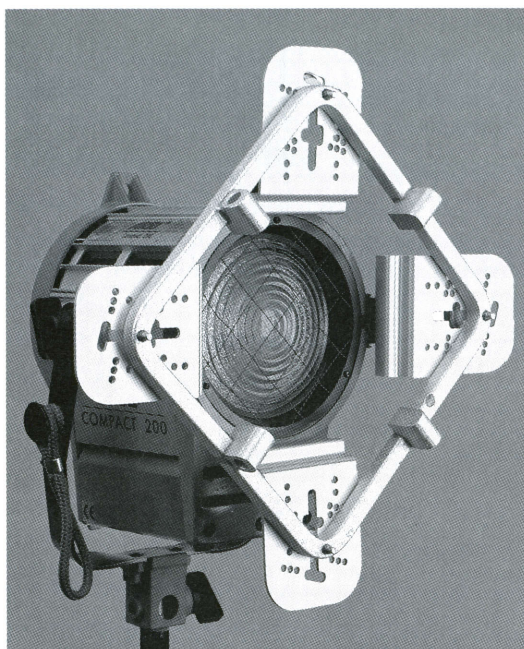
For Wages, the CBS telefilm presented a stark contrast from the sprawling and edgy Westerns that had earned him the ASC's recognition in the past. "This film was definitely more of a human drama, a performance piece," he notes. "The look was very naturalistic, unobtru-

sive and subtle. On the Westerns I've done, the photography was much more pushed out in the forefront; on this film, it wasn't. Part of cinematography is doing what's right for the story. Sometimes that means being invisible, sometimes it means grandstanding a little bit. This film definitely was about subtlety."

The telefilm was shot entirely in practical locations in and around Toronto, and Wages implemented an approach he has designed for lighting tight spaces. "We dealt with a lot of 8-foot ceilings," he recalls. "In keeping with a naturalistic look, I didn't go into a room and completely change its nature. I tried to enhance it to [match] the tone of the scene. That sometimes meant beautiful shafts of light coming through the windows, and other times it meant none of that. The film's color is a bit more saturated during the happier parts of the story, and from the point when Sophia's husband dies, we desaturated the color a bit. That was achieved partly through the lighting, but mostly through the coloring during the transfer on the Spirit.

"For tight spaces, I use a lot of ETC Source 4 Leko spots and their little Par lights," he reveals. "With the ETC Pars, utilizing the glass-reflector design, all of the heat goes out the back end, so you can easily gel them inside the doors. I could use them in a small room in daylight balance, and the gels would last the whole show; that way, I didn't have to deal with a buzzing HMI in a tight room. I use both the Source 4s and the ETC Pars for bounces all of the time. I can easily put a two-inch-wide streak of light on a ceiling, and I don't have to use any flags to control it. Those fixtures have changed the way I do things.

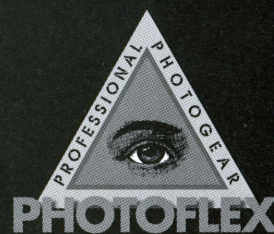
"I did employ HMIs outside," he continues. "I used an 18K and a bunch of 2.5K Pars to have light coming in through the windows. I had the Source 4s and Pars for fill inside. I also used a lot of practicals,



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and I had all of my tungsten units on dimmers; every fixture was balanced by eye with the dimmer.

"I usually light to about 2800 degrees Kelvin instead of 3200. I've found that at 2800, I can change the light as much as 30 percent in intensity [on a dimmer] and the film won't see a color-temperature change. You can use half and single scrims, but those are in half- or full-stop increments, and that's not fine-tuned enough. With a dimmer, you can easily bump them up or down one-quarter or one-third a stop."

Wages shot *The Moving of Sophia Myles* on Fuji 250T 8552 and 500T 8572 stocks, employing older Cooke Speed Panchro prime lenses to lend the film a softer look. "The film stars several older women, and the lenses gave us a nice, natural, soft look without requiring a lot of filtration," the cinematographer says. "I'd shot with them before, but these were rebarreled by Clairmont Camera. They're an older technology, and a bit more flarey, but we decided that was a nice look. Also, the Fuji 250 reproduces flesh tones with a nice contrast."

— Christopher Probst

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Rene Ohashi, CSC*

The Crossing

A self-described fan of period pieces, cinematographer Rene Ohashi, CSC was eager to film *The Crossing* as soon as he read the script. The A&E drama tells one of the most famous war stories in American history: how George Washington marshaled the ragtag remnants of the Continental Army and led a successful surprise attack on the Hessians encamped in New Jersey on Christmas Eve in 1776.

Ohashi won an ASC Award for *The Crossing*, and it was his first such

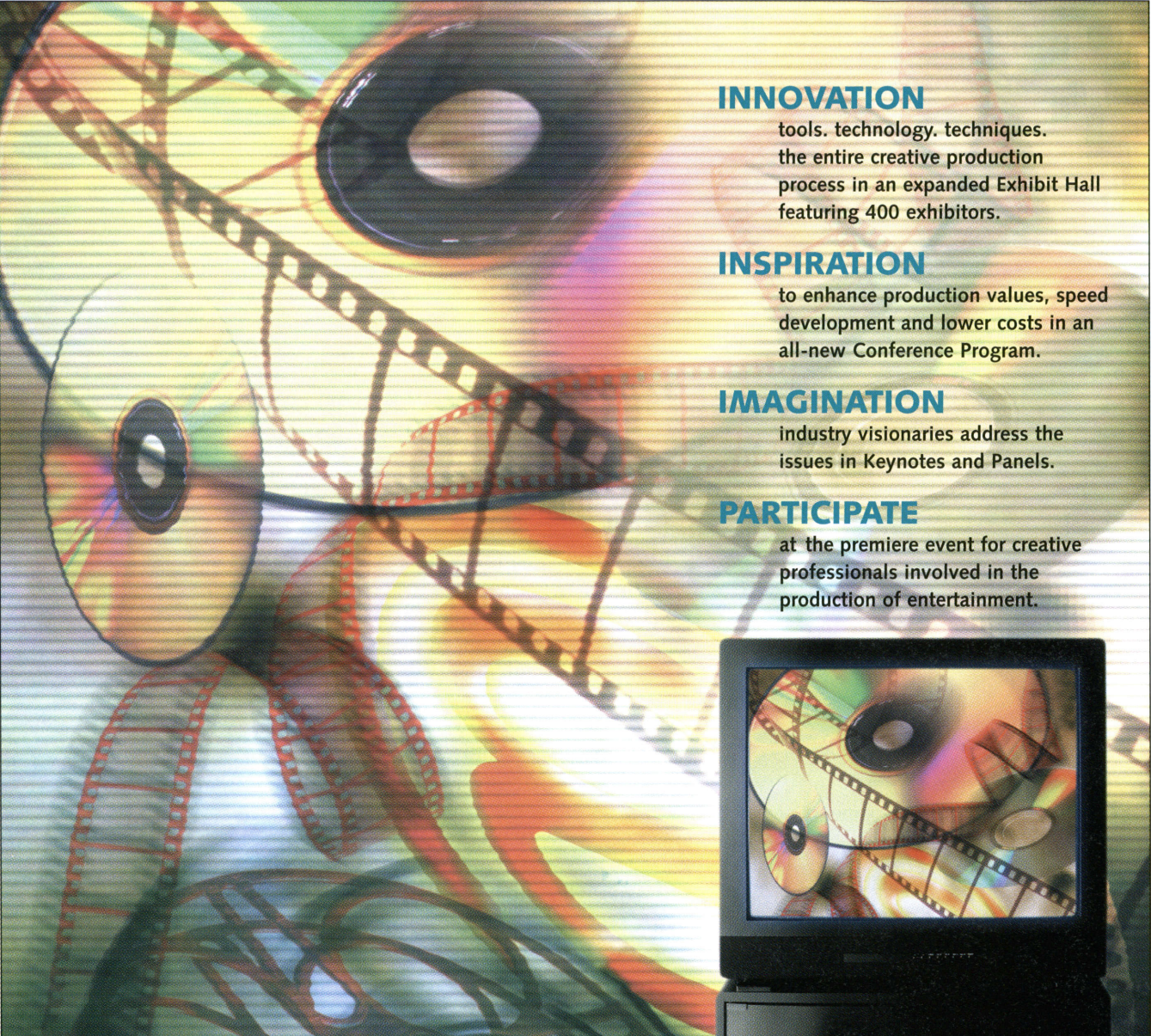
nomination. The cameraman has worked extensively in TV, film and commercials since the late 1970s and has garnered numerous awards in his native Canada. He has earned seven CSC Awards, as well as the Kodak Lifetime Achievement Award in 1997, and his cinematography on the features *Millennium* (1990) and *Shadow Dancing* (1989) was honored with both CSC Awards and Genie nominations. Ohashi has also earned eight Gemini Awards, notably for the telefilms *The Arrow* (1998), *Race to Freedom: The Underground Railroad* (1995), *Alexander Bell: The Sound and the Silence* (1993) and *Anne of the Green Gables* (1986).

"I've shot many period projects, but I'd never shot one from that era," Ohashi says of *The Crossing's* Revolutionary War setting. "[Director] Robert Harmon and I wanted to make a film that looked very real, very true to the story. Toward that end, we used *The Duellists* [a 1977 film shot by Frank Tidy, BSC and directed by Ridley Scott] as a model for the taste and feel of our film, because it has a tremendous amount of visual style yet is also very naturalistic in its approach."

Ohashi earned a degree in film from York University in 1975, but he began shooting TV documentaries while he was still in school. He credits those early experiences with teaching him to think on his feet behind the camera; that skill came in handy on *The Crossing*, which had to suggest the epic canvas of a war film within the confines of a \$4 million budget and a 22-day shooting schedule. "Scouting for suitable locations was crucial," Ohashi says of the production, which was shot in forests and farmlands around Toronto in the spring of 1999. "We only built one set, and that was built into an existing mill. It's where Washington [played by Jeff Daniels] talks to the troops, and it becomes the site of the launch."

The "Delaware River" in the telefilm was actually two ponds measuring roughly 75 yards x 100 yards each; the troops' departure from shore was shot on one pond, and their arrival was shot on the other. Ohashi used Kodak Vision 500T 5279 for all of the production's night scenes. "The trick with the lighting was to keep it realistic yet dramatic, and to have a painterly style that referred to paintings of that period," says Ohashi. "My philosophy in trying to create naturalistic period films is to utilize source-lighting techniques. In this case, that meant motivated firelight or candlelight for night interiors, and simulated, single-source moonlight for night exteriors.

"For the troops' crossing, I wanted to create a cross-backlight in both locations," he continues. "We had to be able to get to both sides of the water, and we had to light a large area." Shooting from the opposite shore, facing the troops, Ohashi relied on two industrial-type crane units with mounted lights to create the cross-backlight. One was Dwight Cranes' LRX, a set of six remotely operated 6K HMI Pars built onto a crane arm that can extend up to 120', and the other was a set of three manually operated 18K HMIs built onto an industrial crane that could extend up to 90'. "We were working in the mud because it was a spring-time shoot," he recalls. "I put the LRX, which is on a large truck with a generator, on fairly hard ground across the pond. The other crane was a four-wheel-drive, all-terrain vehicle, so I could keep it mobile and place it in a variety of locations. The advantage of using multiple units is that one can layer the crosslight with varying intensities and create the illusion of extreme depth through the interplay of shadow and light." He adds that both cranes were frequently hidden within the shot. "In the tracking shot of the boat landing, we actually pass right by the



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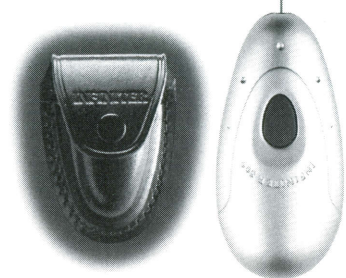
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crane, which is hidden in the trees.”

Ohashi notes that creating ambient fill light over the water is “next to impossible,” and to achieve it on *The Crossing* he used a lighting balloon for the first time. He floated a balloon that measured 21' in diameter and contained four 4K HMIs, and says he is quite pleased with the results.

Another key component of the filmmakers' strategy for exterior shots was the liberal use of smoke, which was dispensed from “miles of perforated tubes,” Ohashi recalls. “The added dynamic of drifting smoke makes the images emerge and evolve — you see things, then you don't. Once we started shooting battlefield sequences out in the open, we used smoke to hide the fact that we had a limited number of extras!”

— Rachael K. Bosley

Anghel Decca

Witchblade

The TNT movie *Witchblade* is the story of New York City detective Sarah Pezzini (Yancy Butler), whose search for justice brings her into contact with a powerful, ancient and living weapon. For cinematographer Anghel Decca (*The Flight of the Dove*, *Hangin' with the Homeboys*), creating a feature-film look on a made-for-cable budget wasn't the most notable achievement of the project. “The victory wasn't in the look,” he explains, “it was in the process.”

The unusual process, pre-lighting locations and sets for multiple-camera shooting from any angle — before any blocking had been done — was the idea of director Ralph Hemecker, who sought a more realistic look for *Witchblade*. “Ralph said the actors would find the sweet spots, and they did,” Decca notes. “They would drift into the light and shadows, and it worked dramatically.”

In addition to seeking more realism, Hemecker also needed to maximize his production time

because he planned to do nearly twice as many setups as usual. Decca notes, “We did not exceed the schedule or budget, and we couldn't have [managed that] without the pre-lighting.”

“We pre-lit so extensively that after rehearsal, I needed anywhere from zero to 15 minutes to refine and embellish lighting for the close-ups, mostly for [Butler,] the female lead. For males, I seldom needed any embellishment.” Another benefit of pre-lighting locations for 360-degree work was the ability to easily use two cameras all the time, an approach Decca embraced.

The cinematographer relied to a great degree on practicals and what he calls “industrial units,” mainly sodium-vapor lights and standard cool white fluorescent tubes purchased at Home Depot. He often used standard movie lights as well, including HMIs to provide key lights through windows. The predominance of window light and scant fill meant that the characters were often lit from the side, a look he felt worked for the dark, edgy story.

Decca generally eschews other common lighting practices. “I never use a backlight from above in a room that doesn't have a ceiling fixture, because it creates a sense of artificiality. I take my lighting cues from the look I see on a location. I take a lot of stills and come back at different hours of the day to get an idea of the look [that might work best].”

This rule-breaking approach extended to the shooting process on *Witchblade*. “We never shot one master shot and then close-ups,” he notes. “We'd stay in master mode with both cameras for a while, then go to close-ups. It's boring to cut back to the same master shot. We had a whole series of masters from which the editors could choose.”

Decca broke another oft-violated rule by shooting the exteriors with tungsten film but no 85 filter. “I knew we'd have both overcast

and sunny days in Toronto, so eliminating the 85 filter helped us obtain a consistent exterior look." He adds that the cool-blue exterior look also suited the script's unsettling tone.

Decca often used wide and ultra-wide lenses for shots meant to be cut against others made with much longer optics, and the somewhat startling mixture was maintained in the editing. "I mainly shoot commercials and music videos," he explains. "To my displeasure, when a TV show is interrupted by commercials, the photography suddenly becomes more interesting. Visually, some 30-second commercials tell a story much better than the seven-minute chunks [of programming]." Thus, Decca strives to keep his cinematography on the edgy side. "After seeing commercials, the audience doesn't want to watch a show with an old, stodgy style of photography," he opines.

Both of Decca's main cameras on *Witchblade* were Arriflex 535Bs; an Arriflex III was used for high-speed work, and a Photosonics camera for ultra-high-speed photography. Decca regularly shot action scenes at 260 fps. The film was shot in the three-perf Super 35 format. The cinematographer employed Zeiss lenses, as well as an extreme-wide-angle Nikkor 8mm lens, short and long Canon zooms, and a 200mm Nikkor lens.

He chose Kodak EXR 5298 stock for interiors and EXR 5248 for exteriors. The film was then transferred to high-definition video and onlined and color-corrected in that format.

Aside from the production efficiencies and the film's naturalistic look, the cinematographer found another major benefit in the pre-lighting approach: "I was in on not only the scouts, but also the designing of sets and locations. This put me more in control [of the overall look], and I think it paid off."

—Eric Rudolph

Robert McLachlan, CSC

High Noon

Canada-based cinematographer Robert McLachlan, CSC had a pretty tall order presented to him when he was asked to photograph the TBS telefilm remake of the 1952 classic *High Noon* for director Rod Hardy. Shot in a scant 18 days, the film used the same shooting script as the original. "Anytime you remake something, especially a classic such as *High Noon*, people are immediately going to be inclined to hate it," remarks McLachlan.

Clearly, not everyone did. *High Noon* earned McLachlan his fourth consecutive ASC Award nomination, after three prior nominations for episodes of the since-canceled TV series *Millennium*. McLachlan's other TV credits include *Sight Unseen*, *Murder at the Door*, *Abduction of Innocence*, *Other Women's Children*, *My Name is Kate*, *Courting Justice*, *The Comic Book Chase*, *The Anniversary*, *Always a Bridesmaid* and *A Vision of Murder: The Story of Donielle*, the series *Strange Luck*, *The Commish*, *The Odyssey* and *MacGuyver*, and the pilot episode of *The Lone Gunmen*. He has also shot the features *Final Destination*, *Impolite* and *Abducted*.

"The most difficult part of *High Noon* was that a lot of it was shot outside; the story takes place over the course of an hour and a half at midday," he relates. "That's tough continuity-wise, even if you're shooting on a backlot in Southern California, which is where they shot the original. We were working in the foothills of the Canadian Rockies, so we had the added variable of weather — and anyone who has shot in that region will attest to [the capricious nature of its] weather! It can go from brilliant sunshine to deep clouds, pouring rain and absolute whiteout blizzard conditions, then back to 65-degree sunshine in a matter of 12

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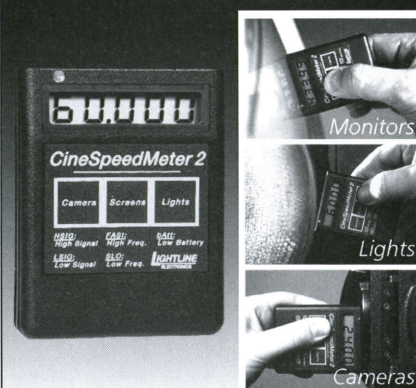
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hours. In fact, we experienced those very changes on two or three days of our shoot! So a primary concern of mine was the visual continuity of the scenes — the angle, color and quality of the light. We were shooting in the spring, so the days were very short.

"Luckily," he continues, "I had a full two weeks of prep, which is unusual for a television movie in our budget range. Thanks to my GPS sun-tracking program, I was able to predict a few weeks ahead of time where the sun would be for our more postcard-type shots. I could then say, 'We absolutely have to shoot this title sequence between 5 and 5:30 on these days.' That really paid off, and we got lucky with the weather a couple of times."

McLachlan says that he and Hardy originally envisioned the picture in black-and-white. However, well aware of the TV industry's reluctance to produce material monochromatically, they quickly dismissed that notion. "I had a lot of experience with desaturating color because of my work on [the series] *Millennium*, so I suggested that we desaturate the colors on *High Noon*," McLachlan submits. "I knew that the desaturation could be easily achieved and would help [achieve visual continuity]; it would blend any mismatches in the color temperature of the daylight. The producers didn't want to do it, but Rod told me to go for it. Our philosophy was based on the frog-in-a-slowly-heated-pot-of-water story: we figured if we didn't heat up the water too quickly, the frog wouldn't notice and would just sit there."

"Because we were shooting somewhat in continuity, we started out with quite rich and saturated color," he continues. "As the story progressed, and as things started to look bleaker and bleaker for Sheriff Kane [Tom Skerritt], we slowly subtracted chroma from the image and increased the contrast. It got more and more monochromatic,

and by the end of the film, when he rips off his badge and throws it in the mud, the image is very close to black-and-white — it barely has any color in it. We went ahead with this [clandestine coloring] approach, and when Jim Head [of TBS] came to visit the set halfway through the shoot, I explained our visual plan to him. Fortunately, he got really excited about it. That gave us carte blanche to continue what we'd been doing and even go a bit further."

McLachlan originally wanted to shoot *High Noon* on Kodak's Vision 250D 5246 daylight stock, but because of budget limitations he settled on Fuji's Super-F 250D 8562 stock. He employed daylight-balanced sources entirely. "I hadn't used Fuji in a long time, and I was actually very happy with it," he states. "It's a bit less contrasty than Kodak's 250D film and has softer colors, so it suited the [desaturated look] of the film, even though we were going to add contrast back in later. It made it easier to make a really beautiful bleach-bypass film print for special screenings."

Although much of the film takes place outside, some of its key dramatic scenes occur indoors. "I tried to keep the interiors as natural as possible," McLachlan notes. "This is a period piece that takes place during the day, so the interiors would be lit with sunlight coming through the windows, not oil lamps. By the time you'd get to the back of some of these sets, it would be pretty dark. I also like to shoot with a lot of contrast and use techniques like silhouettes. There were lace curtains on the windows, so we were able to come through with soft, diffused light on the interiors. I augmented that with show card or foamcore in the corners of the set at a 45-degree angle, and we used 1200-watt Pars to extend what the window light did, carrying it a bit deeper into the room but still leaving a fairly natural fall-off."

— Christopher Probst

Donald M. Morgan, ASC

For Love or Country: The Arturo Sandoval Story

Donald M. Morgan, ASC and director Joseph Sargent made their first picture together, *Amber Waves*, in 1979. "Joe hired me on the strength of a movie for television that I had done called *Serpico*," says Morgan. "I tried to make the TV version look like the feature film that Arthur Ornitz [ASC] had shot. I was getting a lot of flak — 'It's too dark, it's too this or that.' Then I got a phone call from Haskell Wexler [ASC], who told me it was the best-looking film he had seen on TV. I knew I was on the right track."

That was the beginning of many collaborations between Morgan and Sargent, and their pairing has earned the cinematographer an Emmy Award (for *Miss Evers' Boys* in 1997), as well as this year's ASC Award nomination for the HBO telefilm *For Love or Country: The Arturo Sandoval Story*. Morgan is a four-time ASC Award winner; he took the prize home for *Murder in Mississippi* (1991), *Dillinger* (1992), *Geronimo* (1994) and *Ruby Ridge: An American Tragedy* (1997). He also won Emmy Awards for *Murder in Mississippi* and *Geronimo*, and he garnered Emmy nominations for *Elvis* (1979), *Doublecrossed* (1992) and *Ruby Ridge*.

For Love or Country features Andy Garcia as the Cuban jazz trumpeter who helped create Latin jazz in the anti-American atmosphere of Castro's Cuba. The picture was photographed in Miami and San Juan, Puerto Rico.

Morgan says that HBO gave the production team all the time and support they needed to get the pantomimed music performances just right. In fact, Sandoval himself was on set to ensure the historical integrity of the story and the performances, which were often covered

with three cameras and repeated until they were right. "We didn't want to restrict ourselves," says Morgan. "We wanted to cut to another angle when it was right to cut, not because something was wrong. We used wide lenses, long lenses and Steadicam shots to get a variety of angles. We had miles of cutaway options."

The result was that Morgan and the crew exposed large amounts of film. "Editor Mike Brown had to cut this stuff to the music," he notes, "and it was a challenge to make it all match and give it a flow."

Sargent had laid out very specific ground rules for cameras on every take. Within that framework, however, operators were instructed to find interesting shots and follow the action naturally. There was a monitor for each camera, and a communications system kept Sargent in verbal touch with each operator. "Joe can play the piano and the conga drums himself, so he was probably the best director for this movie," Morgan notes. "He's a never-ending source of amazement to me; he keeps pushing and getting the good stuff."

Morgan says he wanted the film to look terrific, but not always "to-the-letter real. I sometimes get a bit bored with the attitude, 'We want to make it look like it really was.'" He altered the look slightly with different filters for some exteriors where Puerto Rico stood in for Cuba. "Most of the time, I also put a Tiffen Black Pro-Mist on the lens," he says. "For some of that material, I wanted to go a little cooler, and for some of the downtown streets, I didn't want it looking so beautiful and clean. Kodak's Vision 250D 5246 stock is already corrected for outside, so for a little extra coolness, I'd sometimes use the Vision 320T 5277 without an 85 filter, or even sometimes the Vision 500T 5279 later in the day. I left the diffusion off for the night scenes."

Morgan used 5279 for most of

the interior performance scenes and employed 5277 for less contrast in certain situations. In other daylight situations, he used 5246. "I love the 5277 for the really heavy-contrast scenes, where we had deep, black shadows," Morgan says. "Where there's a range of five to eight stops of difference, it bites into the dark areas really well."

Morgan reveals that he waited until he was in each situation to commit to the final details of the look. "What I liked about this movie was that it was a project where everybody did a lot of planning and figuring out," he says. "I didn't do that with the look, though. I waited to see rehearsals. For instance, I didn't want to make a statement at the beginning of the production, when I was still in Miami, on how Puerto Rico was going to look. I wanted the opportunity to watch Joe and the actors work. We've been working together for so long that I can have the freedom to react on the spot."

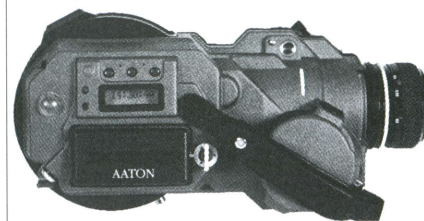
"Joe has always told me, 'Just make it interesting,'" Morgan concludes. "I don't spend a lot of time reading things into the photography. It's really whatever I feel. I like to go home and wonder whether I've gone too far. So far, I haven't."

—David Heuring

Vittorio Storaro, ASC, AIC *Dune*

For complete feature-length coverage of Vittorio Storaro's work on the SciFi Channel miniseries *Dune*, see AC February '01.

RENT A SMALL WONDER



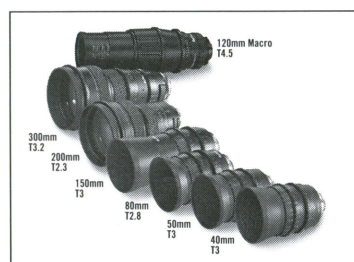
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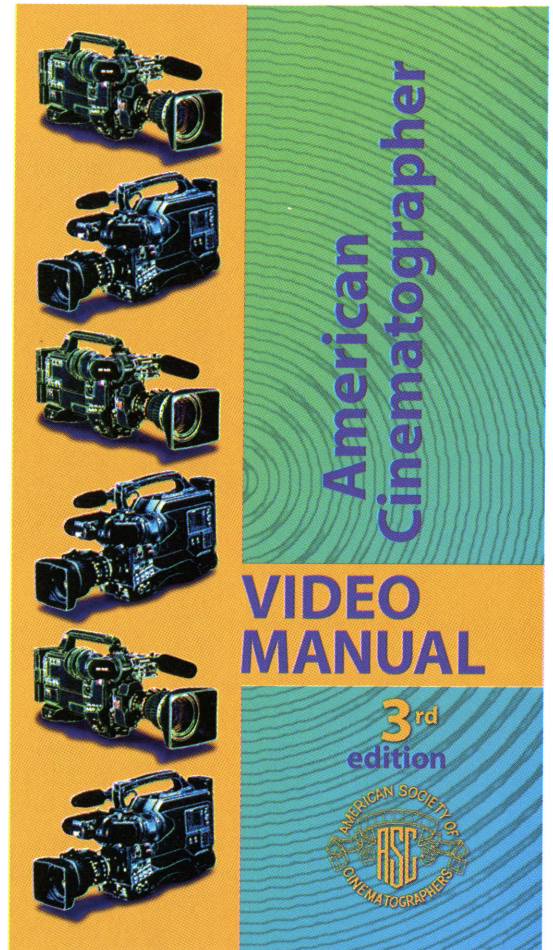
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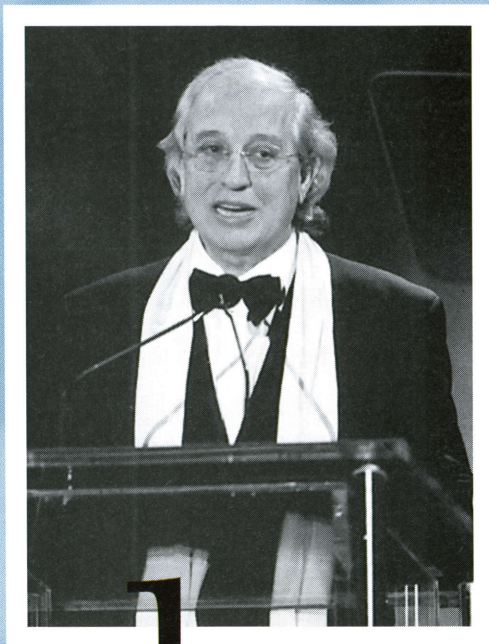
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ABOUT THE AUTHOR: Michael Grotticelli is uniquely qualified to edit this book. He has been covering the professional video industry for more than 12 years. His credits include: Technology/New Media Editor at Broadcasting & Cable; Editor of Television Broadcast; News /Technology Editor of TV Technology; and Managing Editor of Videography.

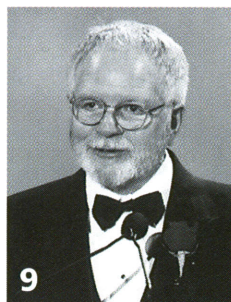
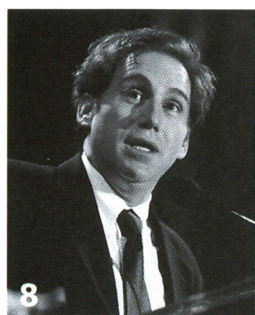
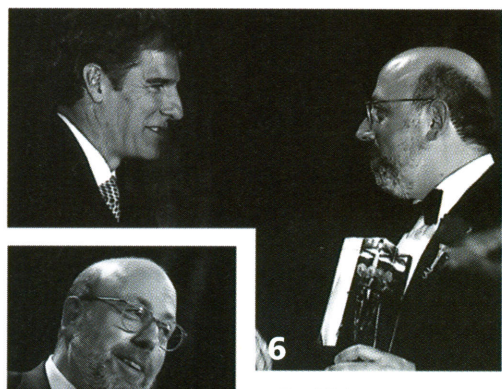
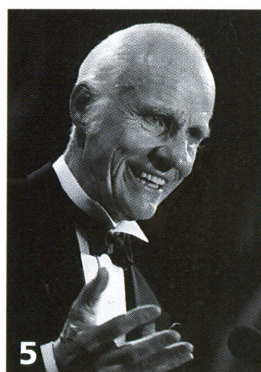
Tripping the Light Fantastic

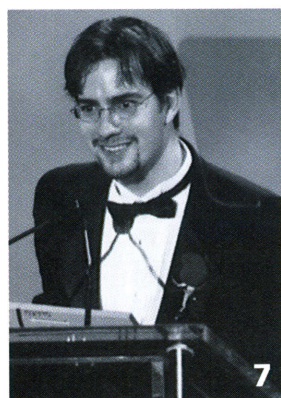
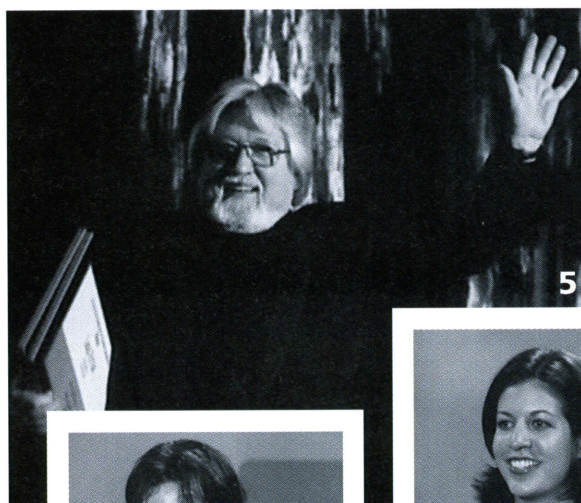
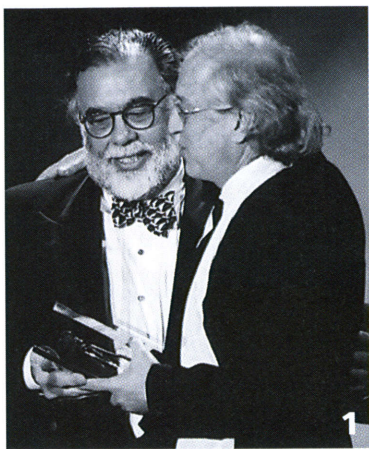


The best-shot feature films, TV series and telefilms from the year 2000 were spotlighted at the 15th annual ASC Awards for Outstanding Achievement in Cinematography, held on Sunday, February 18, at the Century Plaza Hotel in Los Angeles. The following pages offer a photographic recap of the festivities, along with snapshots taken during the Nominees Dinner and the ASC Open House, which took place on the same weekend just prior to the awards ceremony.

Contributing photographers:
Jay Holben, Lucy Nicholson and Chris Pizzello

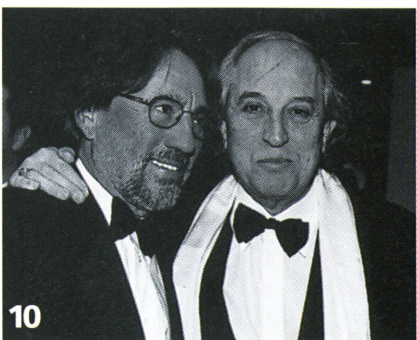
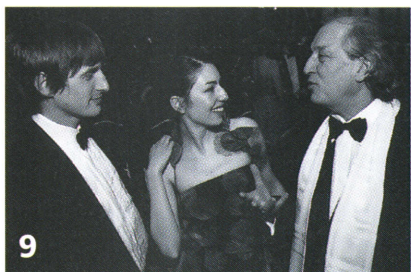
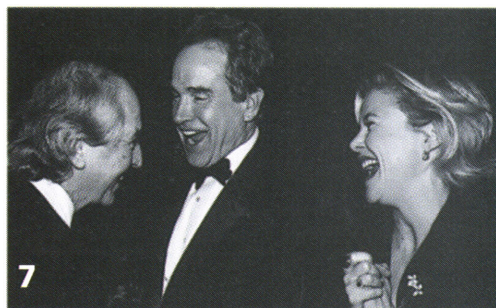
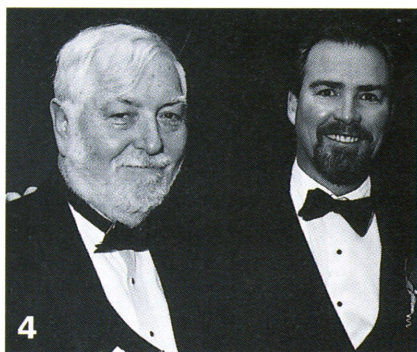
Previous page: Vittorio Storaro, ASC, AIC addresses his peers after receiving the Lifetime Achievement Award. This page: (1) ASC President Victor J. Kemper makes his opening address; (2) actress Bonnie Bedelia presents Rene Ohashi, CSC with his trophy for the A&E telefilm *The Crossing*; (3) Ohashi thanks the ASC; (4) Awards Co-Chairman Bud Stone smoothly introduces the evening; (5) International Award winner Billy Williams, BSC demonstrates his crisp British wit; (6) actor Scott Bakula congratulates Ernest Holzman for his award-winning work on the PBS telefilm *Cora Unashamed*; (7) Holzman enjoys his moment of triumph; (8) actor/director Mike Binder prepares to present the award for Regular Series; (9) Thomas Del Ruth, ASC expresses his gratitude after winning for *The West Wing*; (10) Charles Wheeler, ASC receives the Presidents Award from fellow cinematographer and longtime friend Ron Vargas, ASC.

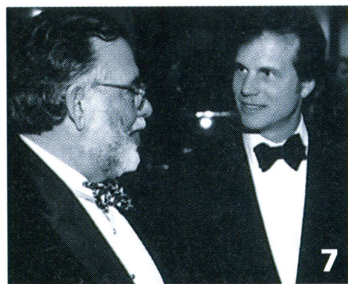
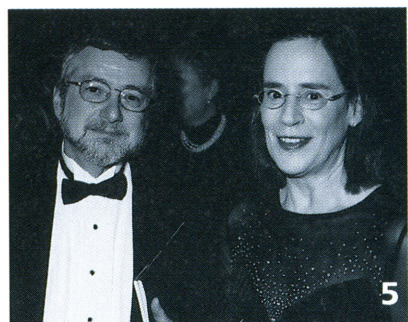
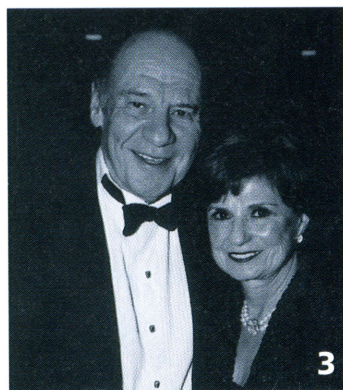




(1) Director Francis Coppola hugs his close friend and brilliant collaborator, Vittorio Storaro, ASC, AIC, after presenting him with the Lifetime Achievement Award; (2) director Oliver Stone shakes hands with Caleb Deschanel, ASC while presenting the Theatrical Release award for *The Patriot*; (3) a jubilant Deschanel thanks his ASC fellows; (4) gracious actress Sally Field admires her Board of Governors award; (5) Laszlo Kovacs, ASC presents the Student Awards; (6) Student Award winner Sarah Levy steps into the spotlight; (7) Student Award winner Lukas Ettlin basks in his moment.

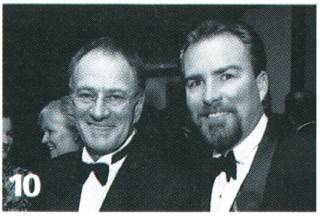
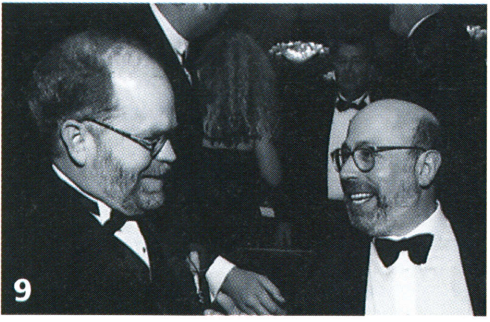
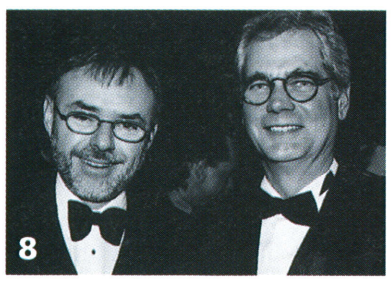
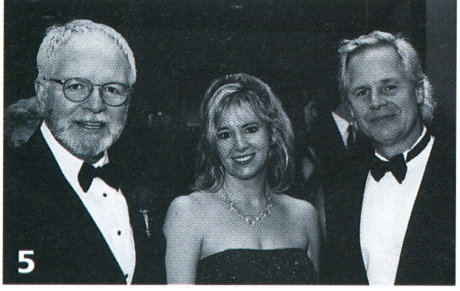
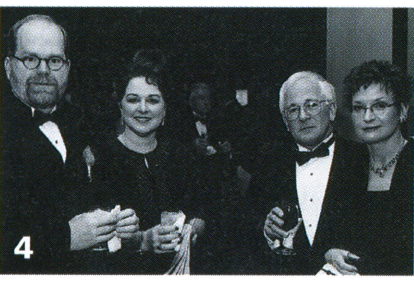
(1) ASC President Victor J. Kemper and his wife, Claire, chat with Billy Williams, BSC and his wife, Anne; (2) Gerald Perry Finnerman, ASC and Beth Schoeder enjoy the festivities; (3) nominee Roger Deakins, ASC, BSC and his wife, James Ellis, cut elegant figures; (4) cinematography scribe Bob Fisher gets the inside scoop from *X-Files* director of photography and nominee Bill Roe; (5) nominee Shelly Johnson, ASC enjoys a glass of wine with Karen Kasaba; (6) Awards Co-Chairman Owen Roizman, ASC, shares a laugh with one of his favorite collaborators, Sally Field; (7) renowned raconteur Vittorio Storaro, ASC, AIC regales his friends Warren Beatty and Annette Bening with a quip; (8) Charles Wheeler, ASC rubs elbows with Storaro; (9) cutting-edge filmmakers Spike Jonze and Sofia Coppola seek out the maestro's counsel; (10) Vilmos Zsigmond, ASC and Storaro express their mutual affection and admiration.

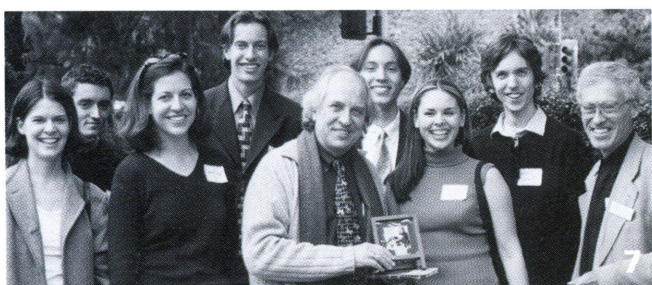
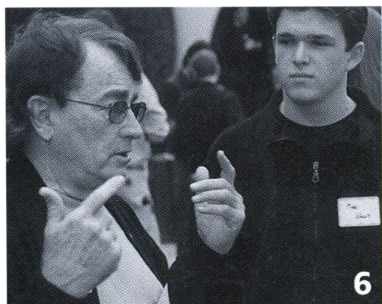
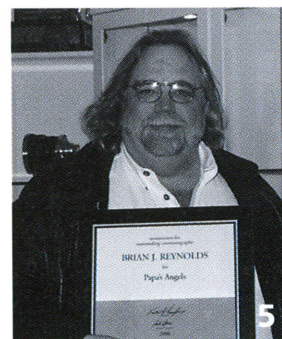
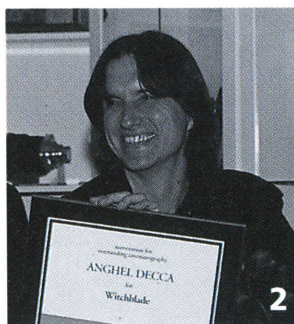




(1) Owen Roizman, ASC smooches a suave-looking Vittorio Storaro, ASC, AIC; (2) nominee Donald M. Morgan, ASC and his wife, Patty, hobnob with Charles Wheeler, ASC and his spouse, Diane; (3) the gentleman's gentleman, Bud Stone, squires his wife, Judy; (4) Francis Coppola and Warren Beatty share a "power hug"; (5) Robert Primes, ASC and his equally talented pianist wife, Theo, enjoy the cocktail hour; (6) nominees Dennis Smith, ASC, Robert McLachlan, CSC, Billy Dickson and William Wages, ASC demonstrate their diverse tastes in tuxedos; (7) Francis Coppola imparts a bit of wisdom to actor/director Bill Paxton, who recently helmed the film *Frailty*; (8) fellow Italians Dante Spinotti, ASC, AIC and Vittorio Storaro, ASC, AIC look sharp in their formal attire.

(1) Former ASC President Ralph Woolsey (left) catches up with Fred and Donna Godfrey; (2) John Bailey, ASC shares the frame with fellow ASC members Vittorio Storaro and Caleb Deschanel; (3) Bud Stone enjoys the company of Robert Rheame, president of the Motion Picture Academy of Arts and Sciences, and Cyril Drabinski, the head of Deluxe Laboratories; (4) nominee William Wages, ASC and his wife, Cathy, pose with Eastman Kodak's Don Henderson and his wife, Kittie; (5) nominee Thomas Del Ruth, ASC and his wife, Patricia, seek the truth from *X-Files* creator Chris Carter; (6) *American Cinematographer* executive editor Stephen Pizzello shows off his lovely girlfriend, Delphine Figueras; (7) glamorous movie producer Corey Sienega knows she'll get good press from her devoted husband, *Hollywood Reporter* special-issues executive editor (and former AC senior editor) David E. Williams; (8) ASC members and consummate artists John Toll and Caleb Deschanel radiate an aura of relaxed bonhomie; (9) nominees William Wages, ASC and Ernest Holzman banter about the biz; (10) Owen Roizman, ASC and Bill Roe smile for the camera.





(1) At the annual Nominees Dinner, Bud Stone and Owen Roizman, ASC flank *Gladiator* cinematographer John Mathieson, BSC; (2) Anghel Decca displays his plaque; (3) Bud Stone poses with Frank E. Johnson, ASC; (4) Roger Deakins, ASC, BSC, rubs shoulders with Owen Roizman, ASC; and (5) Brian J. Reynolds poses in the Clubhouse. During the ASC Open House, (6) Bill Butler, ASC chats with students; (7) Vittorio Storaro, ASC, AIC and Woody Omens, ASC (far right) mingle with a group of students; (8) Student Award winners Lukas Ettlin and Sarah Levy seek out accomplished cinematographer Robert Primes, ASC; and (9) Vilmos Zsigmond, ASC chats with a guest.

Learning by Doing

U.S. colleges and universities offer aspiring filmmakers a variety of courses and instructional paths; in this special overview, AC outlines a number of comprehensive and well-rounded programs.

by David Wiener



In the late 1960s, there was an unprecedented explosion of interest in film study at every level, from junior high through graduate school. The educational establishment set about meeting this demand by creating more film, TV and telecommunications programs each year. Colleges across the country struggled to offer at least a few hands-on production courses, and suddenly even middle-school kids were learning to use basic production equipment at their campus “media center.” By the mid-1970s, dozens of competitions were showcasing this young talent at student film festivals. (In 1978, an entire book was dedicated to the subject, *Study of Film as an Art Form in American Secondary Schools*.)

Although a number of Hollywood’s leading cinematographers are graduates of prestigious film programs — and several of them teach in such programs — it’s impossible to know how many film students will find gainful employ-

ment in what has always been a highly competitive industry. But one thing is certain: there’s no shortage of people willing to try. The good news is, after more than 30 years of this frenzy, there’s probably a respectable film school located not too far from you. This article provides a broad overview of some of the better-known U.S. programs, most of which offer both graduate and undergraduate degrees.

The **American Film Institute**, also known as the AFI Conservatory, was founded in 1969. As soon as they enroll, students (called “fellows”) must select directing, editing, producing, production design, screenwriting, or cinematography as their area of specialization. The terminal degree is a master of fine arts.

Bill Dill, a cinematographer whose most recent feature credit was *Dancing in September*, is the AFI’s primary cinematography instructor. “I design the curriculum and teach first- and second-year cinematogra-

phy courses,” Dill explains. “I also mentor the fellows on all of their projects up through their thesis films. The first year at AFI is highly structured, and the second is devoted to the thesis project, a 35mm short completed as an edited workprint. With the assistance of extremely generous vendors, we provide film stock, processing, printing and equipment, but if the fellow decides to make a release print for festivals, he or she has to raise the additional funds.”

AFI fellows vary widely in age and experience, according to Dill. Some have been admitted with only a stills portfolio and a well-written letter of application. “We require some background in photography,” Dill points out, “but the letter is very important. If you can express yourself effectively in words, it stands to reason that you can learn the grammar of cinematography. I always emphasize the importance of the cinematographer telling a story with compelling images; in every class at

Photos courtesy of AFI, NYFA, NYU, SVA, UCLA, UNC-Greensboro and USC.

AFI, you'll hear the word 'story' over and over. We concentrate on all aspects of that — color design, composition, lighting — and make sure that what we put on film gives the director options in postproduction. It's a collaboration: the director defines the story, and the cinematographer gives it physical expression."

Although AFI is very well-equipped, Dill emphasizes that no film school lives by technology alone. "I want the fellows to understand that equipment doesn't make images, cinematographers do. You don't want a film school that's just a glorified rental house. Technical wizardry is great, but it can be a distraction — it's the dessert, not the dinner."

Like all of the film programs in the Los Angeles area, AFI takes full advantage of being located in the world capital of the movie business. "The fact that we're right here makes it possible for us to offer master classes with instructors who have had remarkable careers shooting major theatrical pictures," Dill notes. "For example, we've invited Conrad Hall, ASC and [production designer] Bob Boyle to screen and discuss their work on *In Cold Blood*."

"And there's another advantage at AFI: you don't graduate as an individual, you leave with a group of colleagues — cinematographers, directors and writers — with whom you will probably work for the rest of your career," he concludes.

The **University of North Carolina-Greensboro** began offering radio courses in the 1940s, television courses in 1950 and film studies in 1955. UNC Greensboro students interested in production enroll in the Broadcasting and Cinema Department to pursue either a bachelor's degree, or a master of fine arts with a "film and video concentration," a course of study that usually takes at least three years.

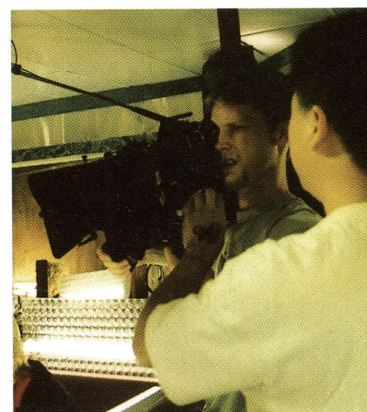
Associate professor Matt Barr, an alumnus of UCLA's graduate film

program, teaches a variety of production courses at UNC - Greensboro, including cinematography and videography. "I've been teaching for 12 years, seven of them here," Barr notes. "Our program has an eclectic curriculum, including film history, broadcasting and documentary work."

Barr echoes Dill's opinion that a good film school need not have a vast equipment warehouse. "You need good equipment, and the more the merrier, but there also has to be quality teaching," he says. "Most of the people enrolled here are interested in learning to tell stories in feature-film style. We teach them how to tell visual narratives with classes in film appreciation, writing, directing, editing, lighting and cinematography."

In keeping with this comprehensive educational philosophy, broadcasting and cinema students at UNC-Greensboro do not specialize, but instead follow a wide-ranging course of study and practical labwork. "They don't follow a single 'track,'" Barr explains. "Learning what the director, editor and screenwriter do is invaluable no matter what they eventually want to specialize in, because production work is collaborative and the jobs are all related."

Students are introduced to shooting film with 16mm Bolex cameras; by the end of the semester, they will have completed a seven-minute 16mm short, edited on video. In their second year, they take Barr's intermediate cinematography class. "This is where they first experience how to prepare, light, shoot and complete a sync-sound project," Barr says. "They use CP-16 cameras, a Nagra, lighting kits and ancillary equipment. Then they move on to the advanced cinematography course, in which we build on what they've learned. Almost all of their projects are shot on film and edited on video."



Opposite page: AFI students ready the camera in front of a large soft source. This page, top to bottom: A UNC-Greensboro film student frames up a shot using an Arri S; a UCLA student gets some hands-on experience; an aspiring filmmaker at the School of Visual Arts shoulders a camera; a NYU film crew prepares to capture a shot for a short film.

Learning by Doing

"Like most film schools, we're grappling with — and taking advantage of — the digital revolution," he continues. "It's a good trend for everyone, because it's making it more and more economical to produce student projects. But there's always going to be a powerful mystique about exposing film stock; everyone is kind of thrilled by shooting film and seeing it projected. We're always going to make sure they get that kind of experience and instruction, no matter what the digital revolution brings."

That revolution has also been embraced wholeheartedly at the **University of California — Los Angeles**, which offers undergraduate and graduate degrees in film. In fact, its film school is now known as the Department of Film, Television and Digital Media. Students no longer take tapes, disks or zip drives to class, because a 2.5-terabyte, central video-storage system is connected by fiber-channels to classrooms and editing suites. Freelance cinematographer Bill McDonald, vice chair for production at UCLA and head of the cinematography program, earned the first master's in film granted by the school back in 1986. He describes some of the practical benefits of centralized video storage: "Any student can sit at any workstation and access all of his or her footage for editing, usually on Final Cut Pro. We can also view anybody's work in class over the network. Our job is to teach visual artists how to tell stories, and any technology that makes storytelling easier is wonderful. I often hear the directing faculty say, 'I don't care what I shoot it on, I don't care what I cut it on, as long as it lets me tell my story.'"

The newest technology innovation at UCLA is the Global Film School (GFS). Jointly operated with National Film and Television School of Great Britain, and the Australian Film, Television and Radio School, the GFS is a for-profit enterprise

dedicated to making full use of Web-based interactive instruction. "It's a whole new idea," McDonald says enthusiastically. "Just what *is* online education in film and television? Skeptics might say you can't do this kind of thing online, but you can teach a lot of the basic theory over the Internet right now. And 10 years from now, you might be able to enter a virtual soundstage and learn lighting from anywhere in the world. It might also help address the lack of available space at film schools; right now, for example, UCLA accepts two graduate students in cinematography from more than 600 applicants each year."

Each first-year graduate student makes two 16mm films, one lasting two minutes and the other six minutes. They also attend workshops in multi-camera television, screenwriting, postproduction, lighting, directing and digital media. "Some of those workshops are master classes," McDonald points out. "Last year, we established the Kodak Cinematographer in Residence Program, under which a distinguished cinematographer 'resides' here for a full term and conducts classes and screens his or her works."

"In the second year of the program, cinematography students take more specialized classes in camerawork and lighting," he continues. "At the same time, they begin shooting films for the second-year directing students. So by the end of year two, the cinematography students will have shot two or more 16mm projects. They also have to do a mentored independent study, anything from shooting a spec commercial on up. The philosophy of the department is to train the all-around filmmaker, regardless of specialization."

On the opposite coast, New York's **School of Visual Arts** has a similar mission at the undergraduate level. Reeves Lehmann, chairman of SVA's Film, Video and Animation

Department, says, "After their first year of general education, undergraduate students can specialize in editing, directing, sound, screenwriting or cinematography. They take courses in their chosen field but still have to complete a number of liberal-arts classes. Cinematography students take basic, intermediate and advanced cinematography, but they also take courses such as 'Masters of Light,' which covers painting and photography as well as film. It involves several outings to art museums. And every undergraduate, regardless of specialization, takes a class through the Actors Studio to learn what actors do and what makes for believable, effective performances."

Student projects are shot on 16mm, mostly with Arriflex cameras. In their second year, cinematography students log as much "flying time" as they can by filming projects for other students. In their fourth year, they choose a faculty adviser and shoot a minimum of two thesis projects. "All of this work is added to their sample reel," Lehmann says. "Thesis projects are shot on film and usually edited on Avid video systems. We used to require that the thesis project be on film, but because more festivals are accepting digital video (DV), we allow students to complete theses on video."

SVA is committed to having working professionals from all disciplines serve as instructors. "For example, Gordon Willis [ASC] teaches a summer program for the school," Lehmann notes. "We realize that teaching can easily conflict with production schedules, so we're flexible. If someone can't teach for an entire year, we ask him or her to teach a semester, a one-week course, or even a one-day seminar. We want the masters training the apprentices."

A new project for SVA students is called Film Bridge ("Building Relations Internationally for Developing Global Education").

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Other Top Programs

In addition to the schools and programs outlined in this article, the following institutions also offer excellent training for students interested in a filmmaking career. While this list is hardly comprehensive, it should offer a good starting point for those seeking a solid, hands-on education.

Boston University College of Communication

640 Commonwealth Avenue
Boston, Massachusetts 02215

California Institute of the Arts

24700 McBean Parkway
Valencia, California 91355

Florida State University Film School

A3100 University Center
Tallahassee, Florida 32306-2350

The International Film & Television Workshops

2 Central Street
P.O. Box 200
Rockport, Maine 04856

The Los Angeles Film School

6363 Sunset Blvd.
Suite 400
Hollywood, California 90028
(see AC April '00 for more details)

North Carolina School of the Arts School of Filmmaking

1533 South Main Street 27127
P.O. Box 12189
Winston-Salem, North Carolina 27117-2189

San Diego State University

Television, Film, and New Media Production
5500 Campanile Drive
San Diego, California 92182-4561

University of Texas at Austin

Department of Radio-Television-Film
CMA 6.118
Austin, Texas 78712-4077

This program funds and coordinates the production of 35mm theatrical films and documentaries in partnership with foreign film schools. "We're in preproduction on our first feature with Camera Obscura, a film school in Israel," says Lehmann. "It's titled *Mansville*, and we plan to shoot in early 2002. It was written and will be produced by students at both schools, and about 25 percent of it will be filmed in Israel. Gordon Willis and Andrew Laszlo [ASC] are on the advisory team for the cinematography. It's a remarkable opportunity for film students to make a full-length feature while they're still attending college."

Preparing students to confront real-world filming conditions is a priority at **New York University**, which offers undergraduate and graduate degrees in film. Vladimir Osherov, cinematography instructor in the Graduate Film Program, explains, "My goal is make sure our students have all the information they need by the end of their second year to do their thesis project and move beyond — that means more location time and less soundstage training. It's better to have them shoot in real interiors, places with real windows, real ceilings, noises, real limitations and problems, because that's what they will encounter working in the industry."

Osherov, who started teaching at NYU last year, is a 1963 graduate of the Moscow Cinema Institute. "The type of cinematography training I had as a student was quite extensive," he recalls. "[It consisted of] a four-year course of study, and the first year was still photography only! Obviously, we have to move much faster [at NYU]. All of our cinematography students start out using 16mm cameras, shooting exercises in black-and-white MOS [without sound]. Starting next year, however, the beginners will use DV, which I think is great for training as long as we don't neglect film."

In the second half of their first year, students make an eight-minute, sync-sound color film; in their third year, they start a thesis project. "The thesis is more of a directing showpiece, simply because most students here want to become directors," Osherov notes. "But that's good for the students who want to be cinematographers, because they can keep quite busy shooting other students' projects and theses in addition to their own. Thesis projects are shot on 16mm or 35mm, depending on what the student can afford."

As with most film schools, tuition at NYU generally covers film stock, camera equipment, grip and electric packages, processing and the use of editing facilities. Anything beyond that comes out of the student's pocket. "No student should ever spend more than he or she can truly afford," Osherov says. "Once they're done filming, the picture and sound are usually transferred to video for editing, which helps keeps the costs down. But the final 'product for evaluation' must end up on film."

Classroom work includes screenings and lectures, and guest instructors are frequently invited to visit classes to explain how certain scenes were lit and shot. Osherov concentrates on "showing them the type of scenes they can do, or at least imitate, in their own projects. The important thing is to make sure they know how to shoot in the real world, on the low-budget projects they will almost certainly start with. I teach them to be realistic from the earliest stage, while they're writing the script and finding locations — how to get the most out of limited resources, how to properly utilize makeshift items and equipment and still put the best possible image on the screen. That's what I want them to learn."

Among the NYU graduates who have made good is Misael Sanchez, now a director of instruction in the **Columbia University** film division, which grants undergradu-

ate and graduate degrees. The school's focus has traditionally been on directing and screenwriting, and it has built a reputation as a training ground for independent filmmakers. At the graduate level, film students can earn a master's degree in three years. Sanchez notes, however, that "they usually stay for five to finish up their thesis projects. Most students work on video, but they can shoot film during their second year and also do their thesis project on film. They transfer to video, edit with Media 100, and use the edit-decision list generated by that software to cut their negative if they want the final result to be on film."

Over the past year, Sanchez has been working to develop an official concentration in cinematography for graduate students. "About two years ago, we only had a single cinematography course," he explains, "and we needed to create more classes and obtain additional facilities. The cinematography classes have to be structured to benefit the majority of students, who concentrate on directing and screenwriting. A directing or screenwriting student can learn how to tell a story using DV and edit on Final Cut, which costs next to nothing. But you learn things from film that are unique [to film], and I'm talking about more than just aesthetics. Because of its cost, film forces you to plan everything out very carefully, and that's a valuable skill in itself."

In Cinematography I, students learn basic information about cameras (using Arri S and BL systems), lenses, postproduction and lighting; the course also teaches aspiring directors and screenwriters how to communicate effectively with a cinematographer. In Cinematography II, students shoot a sync-sound project and take at least one field trip to a local rental house, such as Panavision, to get up close and personal with the stars of the 35mm world. Cinematography III, currently in development with the

assistance of Kodak, will be a series of master classes with working professionals who will give lectures, host screenings and demonstrate lighting setups at a small studio the university operates close to campus.

"Eventually," Sanchez concludes, "I want to offer Cinematography IV, an internship where students will work as assistant directors of photography on independent films shooting in New York. Columbia will always be primarily a school for directing and screenwriting, but this means that the relatively small number of cinematography students will always be in great demand; they'll wind up shooting seven or eight film projects for the directing students."

The **University of Southern California** is similar to Columbia in that there is no official cinematography track, but students inclined in that direction can specialize unofficially. The school offers undergraduate and graduate degrees in film. To earn a master's degree, students must write a feature-length script, complete a thesis project or shoot three advanced projects for other students. Students who are primarily interested in cinematography will choose the latter option.

Judy Irola, ASC is an associate professor at USC and director of the cinematography program, which has 26 instructors. "I came out of independent filmmaking, and I've been a director of photography for almost 30 years," she says. "I've done lots of documentaries, but I'm best known for independent features like *The Dead-End Kids* and *An Ambush of Ghosts*. It's the norm here that our cinematography instructors, like Bill Fraker [ASC], maintain a professional workload outside of teaching. We make sure the program is very hands-on; students are shooting from day one."

In their first semester, graduate students make five films on DV; during the second semester, they

choose a partner and complete two five-minute MOS black-and-white 16mm projects, taking turns at being the writer/director and cinematographer. An intermediate cinematography elective is available during the third semester, and in the fourth semester, each student pitches ideas to the faculty for narrative shorts and documentaries. From those ideas, four 12-minute shorts and three 20-minute documentaries are approved for production.

"After that," Irola explains, "there's an advanced 35mm cinematography elective. Everybody makes a 35mm project with a Panavision camera, perhaps a music video or a commercial. Students leave here having shot six, eight or 10 advanced projects, and they've been out on real shoots as well. All film projects shot in color and sync-sound are edited on nonlinear video; then the negative is conformed, and the final product ends up on film. But that may change — I think the 35mm blow-up you can get from DV now is really magnificent and saves enormous amounts of money."

Irola feels that in addition to technical knowledge and an impressive sample reel, one thing students should take away from any good film school is maturity. "I want these young people to leave here knowing what it is to be a professional cinematographer on a movie set," she emphasizes. "[That means knowing] how to work with other people and how to lead a crew of any size, whether it's five or 50 people, and knowing how to take care of the set. I think we train our students to do that very well; I get good feedback from people in the industry about our graduates."

To ensure that USC stays on the cusp of new digital technologies, the School of Cinema-Television recently opened the Robert Zemeckis Center for Digital Arts, a gift from the Academy Award-winning director and alumnus. George Lucas,

Learning by Doing



USC has an armory of film gear ready for students to use, and the facility operates like a normal rental house.

Steven Spielberg and Ron Howard also contributed to the establishment of the facility. "The opening of the Zemeckis Center is a milestone in the school's evolution, further enriching the curriculum with the most advanced tools in digital filmmaking," says Elizabeth Daley, dean of the school.

The center houses 60 Avid

Xpress DV editing stations, visual-effects tools such as blue- and green-screen technologies, CGI classrooms and digital-compositing equipment such as the Quantel Domino. It features five studio-quality, multi-camera soundstages, including the Universal Studios Motion-Control and Performance-Capture Lab. USC's student-run television station, Trojan Vision, is housed in the center, as is a THX-certified screening room capable of 35mm, 16mm and digital projection.

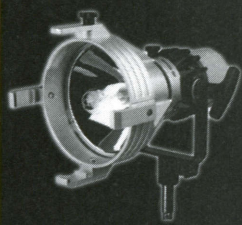
"We will soon introduce something we call 'extended cinematography,'" explains professor Woody Omens, ASC. "This means that future cinematographers will be involved in imaging well before production, during production and in postproduction. The cinematographer plays a vital role in image capture and image expression using both film and digital art and science.

[We can] add some knockout digital arts touches once production shooting has ended."

For those seeking intensive, practical instruction without competing for admission and earning a formal degree, there are a number of private workshops and certificate programs available. One is the **New York Film Academy**, which has a slightly misleading name because it offers instruction not only in New York, but also in Los Angeles, Florida, London and Paris.

Alex Meillier, who earned a master's in film at NYU, has taught basic camera and lighting classes at NYFA for four years and coordinates the curriculum. "Professional cinematographers such as [ASC fellows] Richard Shore and Sol Negrin teach the more advanced material," he notes.

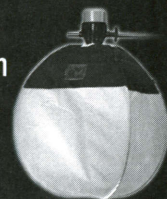
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devoted almost entirely to production on film. Fees include equipment, stock, processing and the use of editing facilities. "Students begin using Arriflex 16mm cameras on the very first day," Meillier points out, "so we try to teach the technical aspects quickly. We start with teaching them how to thread a camera, and then we teach them how to use that camera to tell stories and express their ideas. This is ultimately a directing program, and the overriding emphasis is on how to tell a story rather than on the details of production values. Let's face it: no film student can expect to come away with a thesis project that looks like *Titanic*. So we do guerrilla filmmaking, going onto the streets and into real buildings to shoot. Of course, we help students arrange for permits and locations."

Students attend lectures, shoot class exercises and then make a final project outside of class. "For exam-

ple, a student in the eight-week program would direct four exercises, and the entire second month would be devoted to making a final project," Meillier explains. "The classwork and training are always preparation for the final project."

NYFA established a West Coast branch at Universal Studios in January 2000, which means California students have an opportunity to shoot on a real backlot. "Believe it or not, they often choose to shoot off the lot so they can gain experience doing location work," Meillier notes.

Four- and eight-week students learn to edit film on a Steenbeck, while the full-year students shoot on film (although they are permitted to shoot DV instead) and edit on video. Most final projects will be on tape, but students who can afford it go on to conform their negative and end up with a final project on 16mm film.



A New York Film Academy student uses an Arri S to compose a scene.

"Several schools grant college credit for our program, which is great for NYFA students who want to pursue a formal degree," Meillier adds. "We want our students to leave with the best sample reel they can create under the actual circumstances most crews will encounter during production." ■

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A Blast From Baseball's Past



Haskell Wexler, ASC teams with director and hardball fanatic Billy Crystal on the HBO telefilm *61**, which chronicles Roger Maris's controversial quest to break Babe Ruth's home-run record.

by Jean Oppenheimer

Unit Photography by Ken Regan and Neal Preston

Haskell Wexler, ASC was feeling philosophical a few months after wrapping *61**, an HBO movie that details the 1961 race between baseball greats Roger Maris and Mickey Mantle to top Babe Ruth's single-season home run record. "Shooting a film takes a hunk of time, and it's a really intense piece of your life, so it might as well be something enjoyable," he remarks. Wexler, who has won the Academy Award for Best Cinematography twice (in 1966 for *Who's Afraid of Virginia Woolf* and in 1976 for *Bound for Glory*), signed up for the televi-

Photos courtesy of HBO.

sion assignment precisely because he thought that working with director Billy Crystal on this particular project would be a good experience. He wasn't disappointed.

A die-hard baseball enthusiast, Crystal had wanted to direct a film about the Yankees' 1961 season for years. Not only had he known Mickey Mantle personally (his love affair with the sport began in 1956, when he attended his first game and saw Mantle hit a home run), but he possesses an encyclopedic knowledge of just about every major-league baseball statistic known to man.

According to Wexler, whose credits include *One Flew Over the Cuckoo's Nest*, *In the Heat of the Night*, *The Thomas Crown Affair* and *Medium Cool* (which he also directed), Crystal poured his heart and soul into the project, and his enthusiasm and respect for the material motivated the entire cast and crew. "[The way] everyone works together is important," notes the cameraman, a Chicago native who's partial to the Cubs. "The team has to work as one. We were a team, and we respected the vision and dedication of the director." With a laugh, he adds, "Billy was a stickler for details of the period and of the specific stadiums [Tiger Park in Detroit doubled for three separate playing fields]. All of his knowledge didn't let us get away with anything. A couple of times I nearly said, 'Who's going to know?'"

As Wexler discovered while filming 1992's *The Babe*, trying to shoot in an active ballpark during baseball season is tough because of all of the restrictions placed on the movie crew. 61* had one very lucky break going into production: the Tigers' playing field had been inactive since Detroit built a new stadium the year before. Because the city hadn't decided what to do with the old park, however, the site had been meticulously maintained. The grounds were pristine and the stadium lights were



Opposite page: Roger Maris (Barry Pepper, left) and Mickey Mantle (Thomas Jane) provide double-barreled home-run power for the 1961 New York Yankees. This page: Maris awaits a pitch that he can launch into orbit.

still in place, ready for use. Production designer Rusty Smith and his crew also spent a few weeks at the Los Angeles Coliseum, which was redressed with a baseball diamond.

Games were shot with multiple cameras. Longtime Wexler associate Scott Sakamoto doubled as A-camera and Steadicam operator, using a Compact Moviecam for the former role and a Moviecam SL for the latter; B-camera operator Dusty Blauvelt shot with the SL when it wasn't on the Steadicam; and Wexler manned an Arriflex 435. A fourth operator came on board for some of the Detroit sequences.

Lenses included the new S4 Cooke primes, an 18-100mm Cooke zoom and a 25-250mm Angenieux zoom. A Century Optics 2X Extender was sometimes used on the Angenieux to double the focal length. Wexler owns most of his own camera equipment; whatever he didn't have came from Denny Clairmont, who also provides "incredible service," in Wexler's words.

One new piece of equipment

that the cameraman tried out on 61* was a 3:1 Hawk zoom, which offers a focal range of 150-450mm. Designed and manufactured by Germany's Vantage Film in conjunction with Rodenstock, the Munich lens-making company, the Arriflex-compatible telephoto zoom is the first spherical lens produced by Vantage, which is best known for its Hawk anamorphic line (as well as a series of rental houses throughout Europe). Vantage approached Wexler about using the new product, which had been on the market for a little more than a year; after agreeing to try it, the veteran cameraman rented the lens from Rocky Mountain Pictures. The 3:1 is a fast lens, boasting a maximum T-stop of 2.8. At a length of 660mm (the lens diameter is 156mm), with a weight of 35 pounds, it is a big, long, heavy lens. The Hawk has an Arri PL mount that's compatible with all Moviecam, Arri and Aaton cameras, and it accepts two internal filters (48mm in diameter).

In mapping his strategy for the baseball games, Wexler assigned

A Blast From Baseball's Past

After finally blasting his record-breaking 61st home run off Boston Red Sox pitcher Tracy Stallard, Maris — standing next to the fan who caught the ball — displays a new jersey commemorating his feat. The accomplishment was dogged by controversy for years afterward, however, because Babe Ruth had hit 60 home runs in 1927 during a 154-game season, baseball commissioner Ford Frick, who didn't want anyone to surpass the Bambino, ruled that Maris's record (set during the last game of the league's newly implemented 162-game schedule) would be appended with an asterisk. The asterisk was finally removed in 1991, making Maris (who had died in 1985) the undisputed home-run king — until his record was obliterated in 1998 by St. Louis Cardinal Mark McGwire, who crushed an astounding 70 "dingers."



camera positions that essentially mirrored those used for live broadcasts of the sport. "Baseball coverage on television is really good," he observes. "The major shot on live TV shows the pitcher, batter, catcher and umpire, but you also see shots of [the individual players]." On 61*, the A and B cameras almost always focused on activity within the diamond, principally the interaction between the pitcher and batter. Using the Hawk on the Arri 435, Wexler then picked up a variety of details that weren't part of the main scene. The zoom's fast speed and long focal length, along with its framing flexibility, resulted in candid cutaways of players in the dugout and spectators in the stands.

Director Crystal instructed the actors in the dugout to stay in character during every take. "They were so far from the camera [which was about 50 feet behind first base] that they assumed they were just indistinct background," Wexler notes, laughing. "I was able to get some rather spontaneous reactions, including a few random spits. During one scene, Roger Maris [played by Barry Pepper] is in the dugout, sulking. I zoomed through

all of those blurry baseball players in the foreground to his face, and the resulting shot has a voyeuristic intensity that would have been difficult to get [otherwise]."

The Hawk enabled Wexler to discover intimate little dramas both on and off the field, such as kids selling hot dogs in the stands or the intensity in a batter's eyes — caught in extreme close-up — as the player stands at the plate, preparing to swing. The lens also proved phenomenally useful during the numerous night games, when stadium lights provided the primary illumination. (Gaffer Colin Campbell added a Rosco 1/8 Minus Green to all movie lights to bring them in line with the color temperature of the ballpark bulbs.) The Hawk's fast speed proved equally valuable during the day, when Wexler stood on the field and shot into the dugouts, which were two or three stops darker than the areas outside the enclosures.

A Preston Speed Aperture Computer helped out a few times, particularly while the crew was capturing a shot of golden boy Mantle (Thomas Jane) entering the Toots Shore nightclub. In order to subtly play up Mantle's godlike

status, Crystal wanted to take the shot out of reality a bit. The camera was on a dolly, and as Jane walked into the dining room, Sakamoto overcranked at 40 frames per second; as Jane sat down at a table and began speaking, the camera returned to normal speed.

The aperture speed control was more commonly used during plays on the field. "We were at normal speed as Mantle came up to the plate and took a couple of practice swings," recalls Sakamoto, who has worked with Wexler on every film Wexler has shot since 1982 (including *Matewan*, *Blaze*, *Other People's Money* and *The Secret of Roan Inish*). "He studied the pitcher; the pitcher studied him. We ramped as he began to swing and then stayed in slow motion from that point. We overcranked at maybe 72 frames."

On another occasion, the camera dollies in rapidly from the pitcher's mound as Maris swings at the ball and makes contact. The shot began at 8 fps and ramped to 125 fps. Visual-effects supervisor Mitchell Drain later added the ball spinning toward the plate and connecting with the bat. It appears that the bat is smashing into the camera; in fact, actor Pepper hit a piece of Plexiglas in front of the camera. As a safety precaution, all cameras had protective glass or plywood around them.

Shooting a batter at 24 fps makes his swing appear faster than it actually is; all the viewer sees is the blur of the bat. To counter this effect, relatively tight shots were filmed at between 28 and 32 fps. Taking off even that little bit of speed helps viewers decipher the player's movements and pick up on his facial expression as he swings. "When you're shooting tight at normal speed, certain actions look faster than they actually are because of the persistence of vision," Wexler explains. "I used to shoot football games for TV. We shot the first few games at 24 frames, and it looked as

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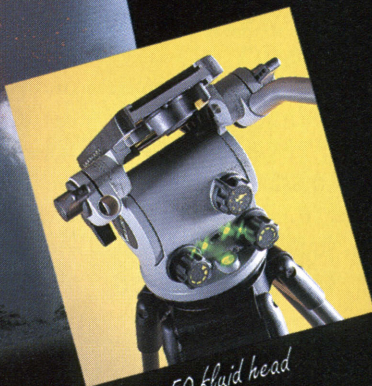
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A Blast From Baseball's Past

The camera crew follows actor Pepper down the first-base line.

While the production's A and B cameras were almost always focused on activity within the baseball diamond, cinematographer Haskell Wexler, ASC used a handheld Arri 435 equipped with a Hawk 3:1 zoom lens to pick up small details on the field's periphery.



if the camera was undercranked. We ended up filming the games at 32 fps to make the plays look normal."

The reverse is also true. Wexler recalls a documentary he filmed many years ago in an Alabama cotton mill. "I needed more light coming in than I had, so I asked all of the workers in the mill to slow down their movements so I could shoot at 12 fps. That gave me one and a half to two stops more exposure, and the workers appeared to be moving normally."

Wexler opted for a surprising mix of film stocks on *61**. All exteriors were shot on what he calls "the finest-grain and best-looking stock from any manufacturer, Kodak's EXR 5245." While shooting interiors in which sunlight was the primary source, he used Kodak Vision 250D 5246; for all other interiors, however, he switched to Fuji's Super F-400 8582. "I shot a test with the Fuji that was softer, more pastel and gave more information in the shadows," he explains. "It just seemed to be more compatible with the look I wanted. I used the Fuji for all of the interiors in the Queens apartment

[where Maris, Mantle and a third teammate lived during the season]. I also used it in the Yankee locker room."

Reflecting on his interior work, Wexler admits that he "could have been gutsier on some of the interiors. I feel that I used too much fill light. The locker room, in particular, might have looked richer with a bit more contrast."

The Yankee locker room was lit from above with caged gym-light practicals that contained PH211s, 212s and 213s (75-, 150- and 250-watt bulbs, respectively), all of which were on dimmers. "When we were shooting down along the lockers, the light fixtures that were farthest from us would be dimmed down to give more perspective," Wexler notes. "It helped with the depth."

The cages were supplemented with Kino Flos that were kept out of camera view. These units were covered with muslin and hung a good four feet in from the wall, so that the walls wouldn't get too bright. The room's apparent light source, however, was the cages. "If I had confined the lights more, so that they

didn't overlap so much, there would have been darker areas between [the lit areas], which might have made it more interesting," Wexler muses. "But I had no way of knowing that until I saw the first answer print."

On *61**, Wexler faced a dilemma that has become increasingly commonplace among cinematographers. In terms of thematic concerns, the cable networks are producing the kinds of quality projects that were once the purview of the studios. Because TV or video is the primary destination for these movies, the networks involved won't screen film dailies; they'll only provide video dailies. Many cinematographers — Wexler included — refuse to watch video dailies, so in a sense they are working "blind" during production. While Wexler understands where the network executives are coming from, he nonetheless feels that video dailies are unfair to cameramen. Gaffer Campbell agrees, pointing out that "things always looks brighter on video than they ever will look on film, which makes it very distracting. Directors often complain, saying,

'That's too bright,' and all you can reply is, 'It won't be.' You just have to trust in your previous experience."

Another quondary concerned aspect ratio and framing. Although TV is the primary destination for cable programming, HBO releases its movies theatrically in Europe and Japan. Executives at the network wanted the movie to look good not only in 1.33:1 but also in 1.66:1 (the standard aspect ratio overseas). "Billy and I had meetings with Scott and editor Michael Jablow to try and figure out which format would satisfy all of the different aspect ratios that HBO wanted to protect," Wexler says. "We finally decided to go with 1.66 headroom and to leave the bottom of the frame to whatever it would be. In saying that, I mean that we tried not to have anything untoward in the bottom of the frame, figuring that the headroom would be the determining factor."

"We had our ground glasses etched for 1.66 and we framed as if we were making a 1.66 movie. You have to keep the area above 1.66 clear, or you [run the risk of having] lights or microphones in the frame. It's the same thing we do when we shoot widescreen for a film; we keep the area outside the widescreen area safe."

One somewhat unusual problem cropped up because actor Anthony Michael Hall, who was playing southpaw pitcher Whitey Ford, couldn't throw left-handed. Wexler remembered hearing about a similar situation that had occurred on *Fear Strikes Out*, the 1957 bio-pic about Boston Red Sox player Jimmy Piersall. He soon adopted the same clever solution employed by *Fear* cinematographer Haskell Boggs, ASC (who might have been tipped by watching the 1942 film *Pride of the Yankees*; see Wrap Shot on page 136). "We reversed the lettering on Whitey's hat and uniform and had Hall throw right-handed," Wexler explains. "Then we simply flipped

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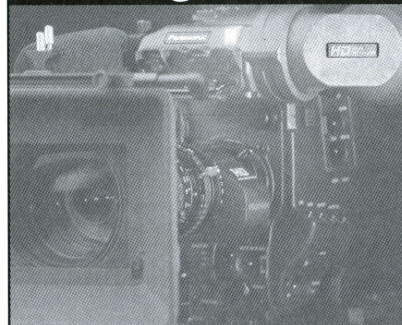
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A Blast From Baseball's Past

This page:
Wexler lines up
a domestic
scene on the set.
Opposite page:
The esteemed
veteran stresses
the concept of
the film crew as
a team, noting
that "the
cinematographer
isn't going to
have all of the
best ideas;
everyone
contributes."



the negative, which essentially produced a mirror image. To show Billy what it would look like, we brought a big mirror onto the set and I filmed into the mirror. It was very convincing, and because we just flipped the negative we didn't lose a generation."

While prepping for the shoot, Wexler knew that he wanted to have the ability to do combination Steadicam/dolly shots in spaces that were too small for a crane. He therefore asked key grip Dicky Deats to design some sort of dolly mount that could, in effect, take the place of a

crane. Deats details, "We incorporated a drop-down plate off the nose of a Fisher 10 dolly, and we were able to put a platform there for the Steadicam operator to stand on. The Fisher 10 has five feet of travel, so we were able to raise the camera to the ceiling, then drop it down to the floor."

The device was used twice: for the first shot inside the Yankee locker room, and for a scene outside Maris's house, when the ballplayer drives up in a taxi and is besieged by a crowd of reporters and paparazzi. For the locker-room shot, Wexler wanted the Steadicam to be as high as possible, looking down at the ballplayers as they got ready for the game. The platform dropped down and Sakamoto stepped off with the camera, wending his way through the room.

For the second scene, the dolly was parked next to a tree; the platform was again raised to its maxi-

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mum height. Adding Sakamoto's height, that brought the camera to a level that was approximately 12' to 15' above the ground. The operator recalls, "We boomed down through the trees to reveal the taxi coming around the corner and the media converging on it. As Barry Pepper got out of the cab, I stepped off the platform and surged forward with the paparazzi. I got to him and began backing up, preceding him to the house as he fought his way through the crowd. He came right at me, and I kept backpedaling onto a porch area. At that point, he passed me on my right, and I swung around 180 degrees. As he got to the front door, he stopped and turned to the crowd, told them to leave his family alone, then slammed the door on the camera."

A Condor with a 20K and a 12' x 12' light grid was used to illuminate the one night scene outside Maris's



house, in which police respond to a telephone kidnapping threat. Because the light was simulating a street lamp, Campbell added a 1/4 straw to the unit.

Whether shot at night or during the day, the baseball games themselves required minimal addi-

tional lighting. The majority of interior scenes were lit with China balls and Chimeras. On some occasions, Par cans with D&N hoods were used. The hoods were made especially for Campbell, who likes the hoods that the Oregon-based D&N makes, but not the HMI Pars that the company



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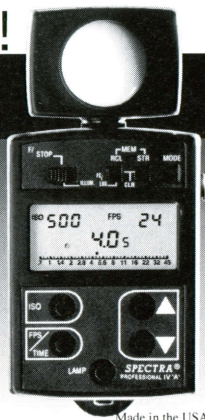
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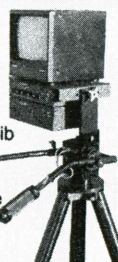


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A Blast From Baseball's Past

makes to go with them. A seldom-used but highly effective tool, the hood reflects 98 percent of the light but doesn't get hot, because the interior is painted with a special, heat-resistant paint (the same kind NASA uses on its spacecraft). "Putting a hood on the top of the light and pointing the light upward turns a very hard, unattractive light into a soft light that provides a fairly even field for about 170 degrees," says the gaffer. "The hood doesn't take up much space, and you can put an additional softening device in front of it to give yourself even greater control in a smaller space. We used a light grid."

Aside from an occasional grad, a double-quarter or double-eighth fog and a Pro-Mist, Wexler and his crew didn't use much filtration, because the subject matter didn't lend itself to a particularly soft image.

Currently in New York shooting his first film for Woody Allen, Wexler looks back on 61* fondly. His experience on the movie, a departure for a cinematographer most closely associated with feature films and documentaries, reflects his personal philosophy: "For a cinematographer, making a film is a total experience. Personal relationships are important not only in [creating a congenial working atmosphere], but also to the look of the film. The cinematographer isn't going to have all of the best ideas; everyone contributes. I can't emphasize enough to fellow cameramen the importance of working with, for example, the production designer — not just to plan the look of the picture, but also to figure out ways of working economically. A movie crew needs to be a team, and the whole team flourishes when the person at the top — in this case, Billy Crystal — is able to draw the greatest creativity from each member of that team."

New Products & Services

compiled by Douglas Bankston



Sony's Digital Empire

by David Wiener

Over the past 10 years, high-definition (HD) video has had a huge impact on almost every aspect of the entertainment industry, including original production, visual effects, distribution and exhibition. Forward-looking electronics companies saw the birth of HDTV as an opportunity to bridge the traditional film/video divide and offer a variety of new services to Hollywood. Sony was one of the most successful in dedicating themselves to that effort, and today, Sony's Digital Studios Division occupies a prominent position at the interface of film and video. The heart of the company's digital empire is the High-Definition Center, located at 10202 West Washington Blvd., Culver City. The state-of-the-art facility is run by Dr. Robert Hopkins, senior vice president and general manager.

"The policy decided by Columbia-Tristar in 1995 was that all new titles would be transferred to HD, and market-valued library titles that were not already on D-1 would have an HD transfer," he states. "When DVD came along, the

policy was extended to that [realm] as well, and even if a D-1 already existed, we still would do an HD transfer. We have done approximately half of *all* the titles that have been transferred in Hollywood."

The HD Center started in 1987 as an R&D team assigned to develop and exploit the "coming thing" of hi-def imaging. Almost 15 years later, with broadcasters transmitting HDTV signals all over America, the facility provides a variety of cutting-edge services.

Restoration and Preservation

Carried out under the direction of Grover Crisp, this division got its start when Sony acquired the Columbia film library in 1989 to meet the growing consumer demand for classic films in the form of cassette tapes and videodiscs. Crisp's division currently resurrects about 100 movies per year. Once they have been restored to their former glory, they are seen on TV, in theaters or on DVD, or they might simply be preserved for their historical value. Crisp's team can handle anything from eliminating a few scratches to major repair work; in the latter category, the technicians resusci-

tated Frank Capra's 1928 silent *Matinee Idol*, which needed work on practically every frame.

"We look at everything we can get our hands on, both picture and audio, to see what shape it's in, then we evaluate what needs to be done," Crisp explains. "Do we preserve it, or restore it? Often we don't know until we get into the project."

Production

During the first half of the 1990s, Sony was actively involved in renting HD hardware to pioneering companies shooting some of the very first HD projects. Since then, the increased availability of HD cameras and recorders has resulted in a shift from providing equipment to providing HD consulting services to directors, producers and crews. But HD equipment is still available; a wide selection of camera/recorders can be rented in a variety of configurations, including special packages that are ideal for blue- or greenscreen compositing shots.

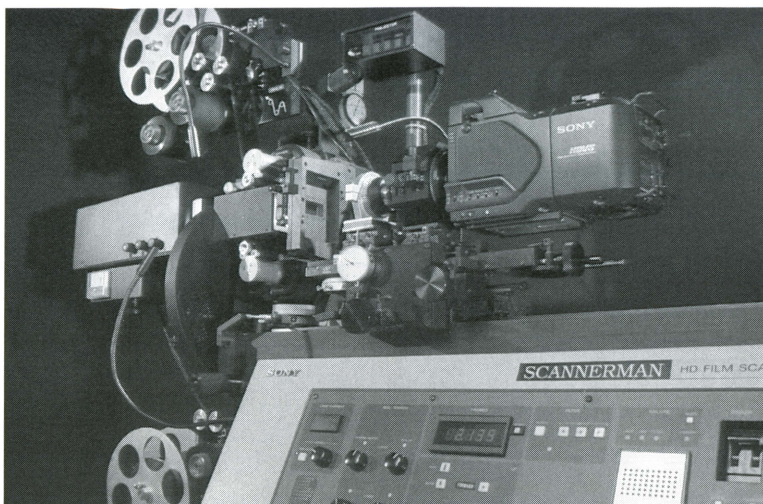
Compositing and Effects

In addition to real-time 2K compositing during editing, material from any format (film, HD video, standard 525 TV, progressive scan, interlace video, CGI, Mac or PC data) can be input, combined, manipulated and finally output on HD.

Editing and Postproduction

Sony's facilities include 10 re-recording studios (the four largest are named for Cary Grant, William Holden, Kim Novak and Burt Lancaster), an enormous scoring stage, nine DVD audio-mastering and sound-restoration suites, three ADR and three Foley stages, 55 digital audio workstations, two sound-design suites, 199 editorial rooms, and

In January of 2001, the Sony Pictures High Definition Center opened the doors to its 24p high-definition online edit suite. On the following page is a picture of the center's HD telecine. Sony's achievements in HD telecine were recognized with an Emmy Award in 1998.



15 non-linear editing systems. HD Ultimatte and multi-layer bluescreen compositing can be done in real time, providing savings for video and film productions. In January 2001, the first 24p edit suite came online, providing a much more direct route from DV production to theatrical film exhibition.

Says Hopkins, "The 24-frame high-definition technology allows producers of movies and TV to work in a standard that can be universally transferred to any format throughout the world — NTSC and PAL video, as well as 35mm film. The technology is a key link between the film and video worlds."

Tape-to-Film Transfer

It looks like the first theatrically released 24p hi-def feature might be the low-budget, supernatural thriller *Nicolas*, rather than the much-anticipated *Star Wars: Episode II*. But any project shot on tape, big-budget or small, must still be transferred to film for theatrical exhibition. If the work is done by Sony, an Electron Beam Recorder will be used for both HD and standard video projects. (Sony relies on the same EBR system to convert CGI to 35mm, 65mm, or VistaVision formats.)

HD Telecine Film-to-Tape Transfer

Between 1996 and 1998, telecine transfers accounted for the lion's share of business at the HD Center; in 1998,

Sony's HD telecine achievements were recognized with an Emmy Award. "It's what I call 'retro,' transferring film an entire frame at a time," Hopkins says of Sony's telecine technique. "What Sony is doing is going back to the old way of [transferring]. The reason for that is the high resolution you can get with the area-array CCDs and pin registration."

Before any film is turned into tape, a consultation screening is held with a telecine operator (known as the "colorist") and the director, who often brings his or her cinematographer to the screening. The film is then transferred to HD and the director's color corrections are made tape-to-tape. Spots, stains and scratches are also cleaned up at this stage. Once the quality-control staff confirms that the customer is fully satisfied with the master, it is downconverted to D-1 tape and sent off to the DVD Center.

DVD Center

David Sterling heads up this division, which creates close to 110 disc versions of films each month for Columbia TriStar Home Entertainment and third-party clients such as DreamWorks, Disney, Fox, Paramount, Warner Bros., Universal, New Line and Miramax. The company's newest high-profile release is the two-disc collector's edition of *Lawrence of Arabia*.

"We started doing DVDs in 1998," recalls Sterling. "We take the D-1 digital master videotape cassette

provided by the HD Center and author the discs using the Sony BDXE 1000 MPEG video encoder and Dolby Digital AC-3 TM audio encoder. Audio encoding is controlled by Sony software; two other audio options, Philips MPEG and Linear PCM, are also available to clients."

An entire team is dedicated to the audio portion alone; these specialists collaborate with the members of the original film's sound crew (if they're available) to create the 5.1-channel soundtrack. When everyone is happy with the audio master, it is synced ("conformed") to the video master. The audio team has 24 tracks at their disposal, providing plenty of space to include special services such as multiple-language versions.

"The video-encoding process can be tricky," Sterling explains, "because a dark scene or one with lots of action requires more compression work. I feel that compression and encoding has practically become an art form in itself."

At long last, sound and picture go into mass storage, usually a modified Sony DVD 7000 player, which emulates a replicated disc. From there, quality-control checks are conducted for every facet of the disc, including closed-captioning and subtitles. For most films, the entire process takes about 10 days.

Sterling concludes, "It's interesting to see how DVD authoring has created entirely new businesses that started as little more than steps in the disc-production process. For example, menu design, disc-quality control, video/audio compression services, and HTML design are all now generating their own revenue streams in the world of digital commerce."

It's also interesting to see how the first HD cameras (20 years ago!) got people thinking about theatrical-quality video production, and how their early HD productions, in turn, gave rise to corporate think-tanks like Sony's HD Center — which stimulated even more HD projects.

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In this "no moving parts" version, the stabilizing force is applied magnetically to the perimeter of the gimbal, thereby maximizing its effect. As a result, stability is very high and power consumption is a low 3 amps in standby and only 15 amps in the most demanding conditions. The only sound the Gyron FS makes is that of the camera running. The vertical reference gyro is solid-state. It is a completely analog system with great reliability and resistance to RF and electrical interference.

The Gyron FS has a full 360-degree pan, a tilt from 88 degrees down to 60 degrees up, and active horizon roll of 60 degrees that can be used in conjunction with all other functions such

as pan, tilt and zoom. Pan and tilt rates are adjustable up to 120 degrees per second. Unique to the Gyron FS is that pan, tilt and roll all keep the camera lens on axis. It can be used on a variety of helicopters, camera cars, cranes and cable rigs.

The Gyron FS comes supplied with an Arri 435 ES camera with an Angenieux HR 10:1 zoom lens, but it will also accept nearly any other lens, including Panavision's, without changing the system balance. All functions of the 435 ES, including 1,000' electrically driven magazines, are included with the package.

The Gyron will also accept VistaVision, Iwerks 8-perf and Imax 15-perf cameras, and is HDTV compatible. Panaflex and Arri 535 cameras can be used for crane and some camera car applications but are not recommended for aerial use, because their movements are rubber-mounted and cannot be fully stabilized.

Wolfe Air Aviation/Gyron Systems International, (626) 584-8722, fax (626) 584-4069, Web site: www.gyron.com.

Heads Above (And Below) The Rest

HydroFlex's HydroHead is a waterproof remote pan-and-tilt head used recently both above and below the waterline on *Pearl Harbor* (see photo). The HydroHead's light weight and low profile, combined with the tubular hydrodynamics of HydroFlex's RemoteAquacams, allow the system to glide through the water with the least resistance. An

optional bracket allows mounting a standard Arri or Panavision camera package in one of the company's custom splash bags for surface wet work. The HydroHead uses Power-Pod electronics and offers operator familiarity and years of dependable, in-the-field experience. The pan-and-tilt units are separate gear boxes, linked by risers that can easily be reconfigured for a variety of applications. The Power-Pod Multiplexer uses a simple two-conductor cable to transmit all commands using a highly accurate and purely analog signal, which is safe to use with video and other sensitive equipment. The package includes a Zapper, a handheld power pack that will control the pan and tilt functions on its own to facilitate easier camera setup, and while "wrapping" the head.

The HydroHead operates off main 220/240-volt, 110-volt AC (direct), or a pair of 24-volt batteries. Maximum draw is 5 amps, with the average at just over 1 amp. Battery inputs are diode-protected and failures are indicated by red LEDs. Underwater mateable connectors are standard, and the system is depth-rated to 150'.

HydroFlex, (310) 301-8187, fax (310) 821-9886, Web site: www.hydroflex.com.

Express Yourself With Kodak's New Stock

Kodak has added the Vision Expression 500T 5284/7284 film stock to its family of Vision color negative film products. The new Expression 500T is designed to render images with lower overall contrast, slightly less saturated colors and an extended range of under- and overexposure latitude.

The film is rated for an exposure of 500 in 3200°K light and 320 in daylight with a number 85 color-correction filter on the camera lens.

Says Kodak product manager Colette Scott, "This new film is designed to give cinematographers another creative choice in situations where high speed is important. It provides an improved flesh-to-neutral tone scale that will record a pleasing variety of skin tones in the same scene. The extended



exposure latitude also allows cinematographers to capture more scene content than ever before. The wide range of underexposure latitude allows cinematographers to use this film to reveal subtle details in shadow areas — even in extremely low-key scenes."

Contact your local Kodak representative or visit the Kodak Web site at www.kodak.com.

Digital Intermediate Service

Cinesite (Europe) and Kodak have announced the opening of their new digital-intermediate service at their SoHo offices in London. The service is being put through its paces on the hi-def master for all 10 one-hour episodes of the forthcoming HBO miniseries *Band of Brothers*. Cinesite is currently the only facility in the United Kingdom to house both the Philips Spirit DataCine and Spectre Virtual DataCine, and is making a substantial investment in customizing software for image conversion, color grading, conforming and queuing control.

The new facility is digitally grading and mastering all 10 episodes in real-time, interactive sessions with the clients from HBO. This allows for highly creative grading, which can affect the look and visual style of a production. The seamless integration of Kodak Vision 5289, 5279 and 5274 films in the scanning process was critical in capturing enough contrast, range, color gamut and resolution to support all future film-, HD- and video-distribution requirements.

This new service was announced at Cannes 2000, where Cinesite Hollywood presented work from the Coen brothers' film *O Brother, Where Art Thou?*. Cinesite Hollywood was one of the pioneers of the process; its first project was *Pleasantville* in 1997.

Cinesite London, 44 (0) 20 7973 4000, Web site: www.cinesite.com.

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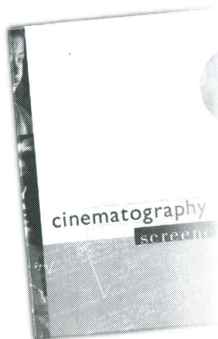


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Cinematography Screencraft

by Peter Ettedgui

The 17 directors of photography profiled in this book encompass three generations of filmmaking, representing a wide range of visual styles — from *The African Queen* to *Delicatessen*. Lavishly illustrated with over 500 color pictures, 300 black-and-white photos, and numerous diagrams, this reference features informative accompanying text based on interviews with each cinematographer. This is a perfect book for practicing professionals, students, and movie buffs alike.

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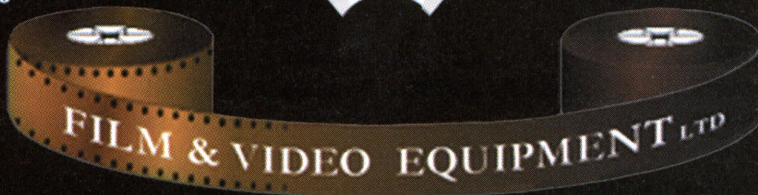


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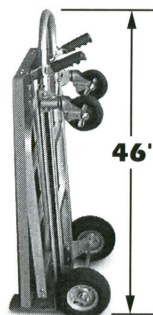
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In Cine mode, the Starlite All-In-One provides filmmakers with a range of features, including a preset shutter angle of 180° that is adjustable in 10-step increments. In the Photometric mode, light intensities and luminances can be measured for both ambient light and flash, with results displayed in LUX, footcandles, cd/m2, footlamberts and more.

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Points East

Hi-Def Options Make Rhinoceros Post a Hot Property

by Eric Rudolph



While the production of movies in digital formats appears to be approaching critical mass — at least in terms of media buzz — it seems clear that film will be the medium of choice for exhibition for quite some time. Simply put, movies will be projected on film until someone figures out a realistic and profitable way to fund the cost of adapting commercial theaters for digital projection, a cost estimated to be approximately \$150,000 per screen. Until then, filmmakers who work in digital media must have their works transferred to celluloid if their goal is theatrical projection.

The growing popularity of digital production for film and television projects is driving many electronic filmmakers on the East Coast to Rhinoceros Post, an energetic Manhattan postproduction facility located on 42nd Street, across the road from Grand Central Station.

David Binstock, CEO of Rhinoceros Post's parent company, The Multi-Video's Group, Ltd., founded the company in the very same building 30 years ago with a Movieola film-editing machine. Now boasting one of the few 24p high-definition (HD) video editing suites in town, Rhinoceros Post is offering creative options to producers of

commercials, TV dramas and feature films. One high-profile HD production that recently posted at Rhinoceros was Sidney Lumet's TV drama *100 Centre Street* (see *AC* April '01).

Digital filmmakers large and small are seeking the services presented by Rhinoceros Post. "We're negotiating for postproduction on several digitally shot features [to be released on film]," explains Craig Gordon, HD online editor and head of the company's HD development team. "One is a major 2 1/2-hour feature that was shot on 24p HD. The producers would like us to do their assembly from the Avid EDL, the

A 24p high-definition edit suite went online at Manhattan's Rhinoceros Post late last year.



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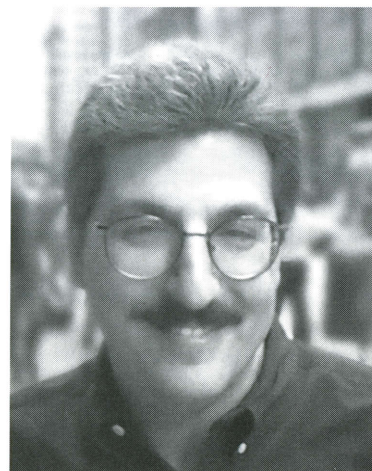
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conforming and color-correction in preparation for transfer to film for theatrical release."

In fact, the options available in electronic postproduction are so impressive that the firm has been in talks with filmmakers who have produced features on film, but are considering converting their footage to 24p HD so they can take advantage of the precise control offered by digital post before transferring back to film for release prints. (One recent production that used this sort of approach using West Coast hi-def facilities was *O Brother, Where Art Thou?*; see AC Oct. '00.) Although this process may seem complex, producers are considering it because the creative control offered in the HD realm is impressive, allowing for precise, surgical color-correction of motion-picture images. "Say you have a scene where the actor's face is in shadow and the background is lit with blue-gelled lights," Gordon says. "You love the look of the background, but need to see the actor's expression more clearly. In our 2K da Vinci-equipped color-correction suite, we can make the actor's face more visible without altering the look of the background or any other part of the scene."

Compositing work is another area in which the HD format shines. The layering of images is done with one of Rhinoceros's three Inferno machines, and the results are clean and very convincing. For example, the late cinematographer John Alonzo, ASC (*Chinatown*, *Scarface*; see In Memoriam on page 133) shot a commercial for Tide detergent using the 30fps HD D5 format. Every scene was made up of four to five elements that he had shot in HD. The spot was composited at Rhinoceros into a dramatic, totally convincing vision of idyllic western landscapes. "Procter & Gamble has been experimenting with HD for commercials for several years," Gordon notes. "Walter Leffler, our HD specialist, has been working with them extensively. He went on location with John Alonzo for the Tide spot as the HD technical director, and he supervised the postproduction."



HD online editor Craig Gordon, the head of Rhinoceros Post's HD development team, notes that "it's essential to know both film and HD video in order to go back and forth between them smoothly."

Digital HD compositing works so well because "there's no noise, no grain," Gordon notes. "Grain buildup is a significant factor that determines the way keys (composite shots) look onscreen. With HD composited in Inferno, there is no noise or grain, so you get a much cleaner key because you are not putting levels of grain together." The benefits are especially apparent when compared to composite shots assembled from elements shot on some higher-speed film stocks. "With some of the faster stocks, one of the film layers does not key very well, so the results can be quite noisy and grainy," Gordon opines.

Rhinoceros Post has been working in HD for three years, although its 24p HD suite came online late last year. "We've been in HD since it became a viable format," says Gordon, "so we have a depth of experience [with the format,] as well as people who have tremendous expertise in both film and video. It's essential to know both film and HD video well in order to go back and forth [between them smoothly]."

Eric Rudolph can be reached via e-mail at erudolph2@nyc.rr.com.

Books in Review

by Ray Zone

**Special Effects:
The History and Technique**

by Richard Rickett
Watson-Guption Publications
320 pp., hardbound (\$75)
ISBN 0-8230-7733-0

Cinema is a perceptual illusion based upon persistence of vision, and special effects are born from that magic. Richard Rickett's insightful book on the history and technique of special effects effectively integrates the story of film magic with that of film history itself. After all, fundamental technologies such as color and sound are themselves species of special effects.

Rickett is a writer/filmmaker and a partner in a company that creates digital visual effects and animation for the film and television industries. With this outstanding book, he has created an up-to-date encyclopedia of every kind of motion-picture process. From the antecedents of cinema to the latest digital effects, the book is comprehensive, historic in approach and very well organized into 10 succinct chapters.

The context is set quite nicely with the first chapter, "Out of the Shadows," which outlines technical developments in film from its earliest days up to *Star Wars: Episode I — The Phantom Menace* (1999). The second chapter on optical illusions explains how movie cameras work and how images are captured on film. With this theoretical grounding, the reader is given a fundamental technical understanding of the basis of film effects. The principles of color, bluescreen, hand-drawn mattes, front- and rear-projection, optical printing and compositing are covered with great clarity.

Did you ever consider that Alfred Hitchcock is an important figure in the world of special effects? Rickett explains how special effects were an important part of the director's visual repertoire, from his use of the Shufan process on *Blackmail* (1929) to his collaborations with master matte painter Albert Whitlock on films such as *The Birds* (1963) and *Marnie* (1964).

Have you ever given Orson Welles's *Citizen Kane* (1941) its due recognition as a special-effects film? Rickett has, and he points out the considerable work that Linwood Dunn, ASC did for the film with the optical printer. "The entire film," Rickett writes, "is littered with subtle optical effects by Dunn and fine matte paintings by Mario Larrinaga. Dunn later estimated that over 50 percent of *Citizen Kane* was optically improved or tinkered with, and that only he and editor Robert Wise might ever be able to identify all of the changes made."

Models, animation, matte painting, physical effects, sound effects and the future of special effects comprise subsequent chapters. A fine chapter on special-effects makeup focuses on the work of artists Jack Pierce and Rick Baker. Up-to-date coverage of digital filmmaking is also included, highlighting such films as *Jurassic Park* (1993) and *Toy Story* (1995). Great photos and art adorn the entire book, which offers 350 color images and 60 black-and-white illustrations. The final chapter consists of an alphabetically arranged listing of special-effects landmarks, along with a glossary of terms, a selected bibliography and an index.

"Over the last one hundred years," writes Rickett, "the art and technology of special effects has been tire-

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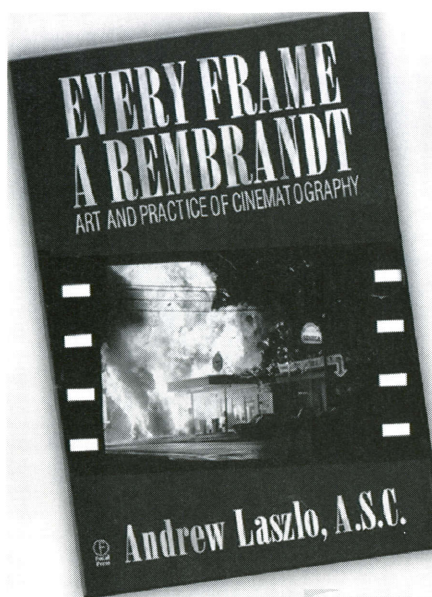
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lessly improved until, as the cinema enters its second century, few creative barriers remain to be broken. With the extraordinary advancements that have been made in computer-generated imagery, it is now possible to produce, artificially, any image that the human mind can conceive."

Get the Picture? The Movie Lover's Guide to Watching Films

by Jim Piper
Allworth Press
256 pp., paperbound (\$18.95)
ISBN1-58115-081-4

"The purpose of this book," writes Jim Piper, "is to help you get more out of the movies and films of your life." Piper makes a distinction between movies and films. Movies are just for entertainment, whereas films are somehow more serious. "This distinction," he writes, "explains why the American Film Institute is not the American Movie Institute. And it explains why universities never offer movie courses or have movie departments: they offer film courses and have film departments."

The difference is simply one of awareness and the willingness to take the movies seriously. Piper uses *The Mask* (1994), starring Jim Carrey, as an example of an entertainment that has some seriousness about it. This film, he postulates, is about a repressed individual who needs to let his inner "super-dude" out; as such, the picture is one of a long line of such films that includes *The Nutty Professor* (1996), *Superman* (1978) and *Rocky* (1976).

"At any rate," says Piper, "the moment we start to think about movies seriously, even funny movies, we transform them into films. We also derive additional pleasure from viewing them." For 20 years, Piper has taught a course called "Introduction to Film" to adults from various backgrounds, and his goal has been to assist people in becoming "cinematically smart" and more appreciative of motion-picture sight and sound.

Toward this end, Piper has divided his book into two sections. The first, "Cinematics," deals with the mechanics of film production, with separate chapters on shots, scenes, sounds, cuts and styles. The second section, "Story," analyzes drama, characters, settings, tones and meanings. With these two large sections, Piper is challenging the film audience to "start watching movies in two modes at the same time, the cinematic and the narrative."

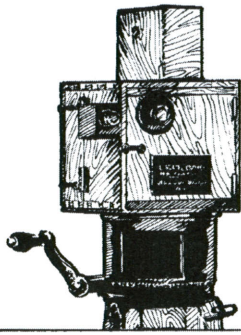
In setting forth the technology and discourse of film, Piper avoids the use of technical jargon and academic clichés. He writes clearly, simply and enthusiastically about the complexities of film production and its artistic and psychological effects. Throughout the book, he uses examples from films as diverse as *The Wizard of Oz* (1939) and *The Texas Chain Saw Massacre* (1974) to illustrate his ideas, and more than 100 stills from various motion pictures are combined with text in an illuminating fashion.

In the opening chapter, "Shots," Piper compares an individual shot in a film to a single sentence in a novel. "Shots are to films what sentences are to books," he says. "And most viewers relate to them in the same way — which is to say they don't see shots at all. They didn't pay money to see a succession of shots: they paid to see a film." This assessment is a good example of how the author renders a complex idea into simple language. Piper then outlines five basic shots: extreme long shot, long shot, medium shot, close-up and extreme close-up, with a separate film still illustrating each.

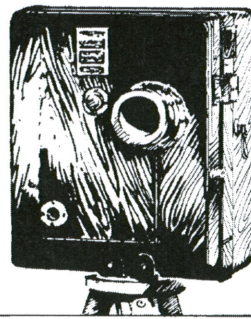
Piper is equally clear while explaining the artistic effect of each kind of shot. For example, in discussing David Lean's use of extreme long shots in *Lawrence of Arabia* (1962), he writes, "Lean uses many extreme shots to show empty space, sky, sand, the burning sun and the ant-like procession of men on horses. These extreme long shots say, 'These men may not make it. The desert may win.'" ■

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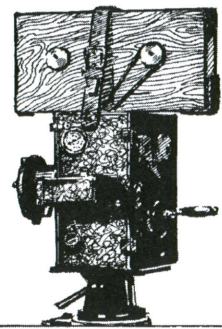
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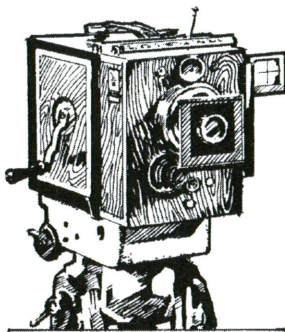
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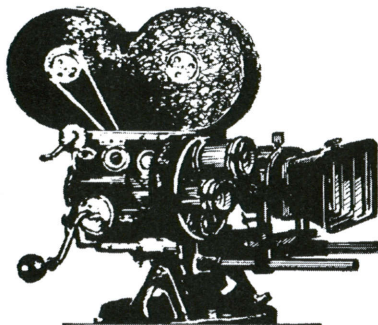
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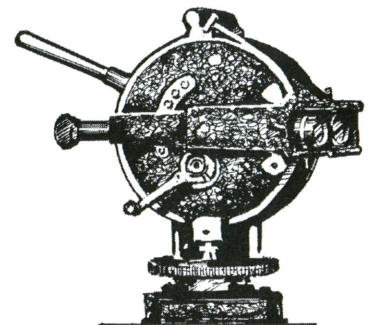
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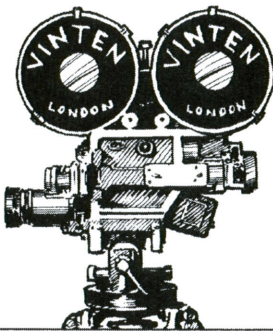
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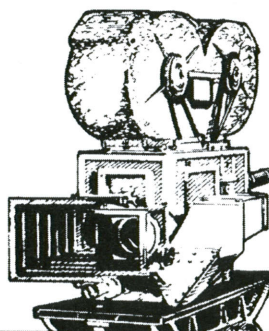
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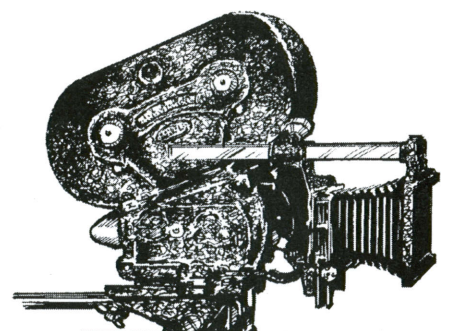
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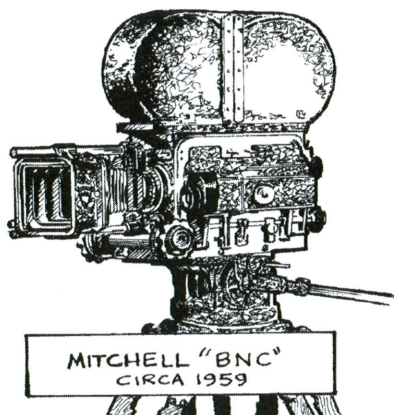
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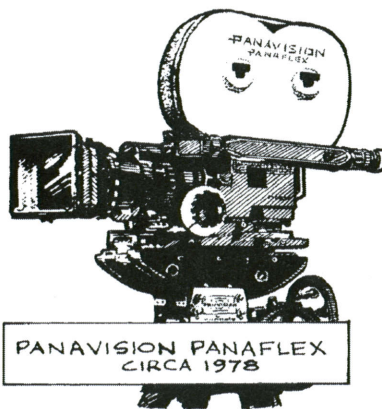
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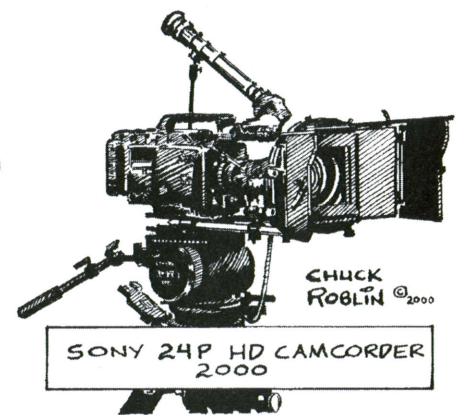
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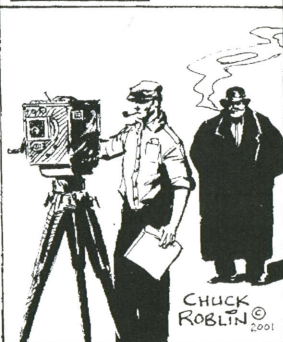
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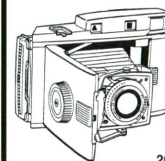
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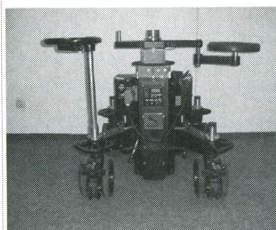


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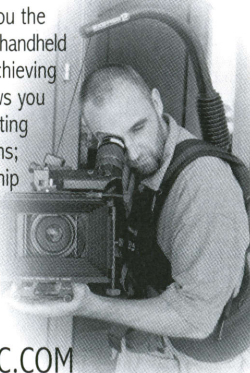
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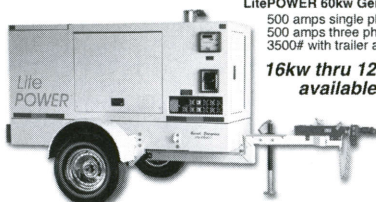
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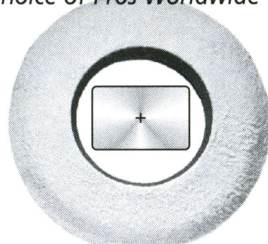
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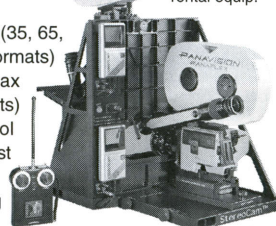
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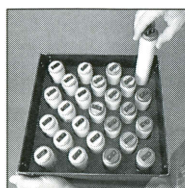
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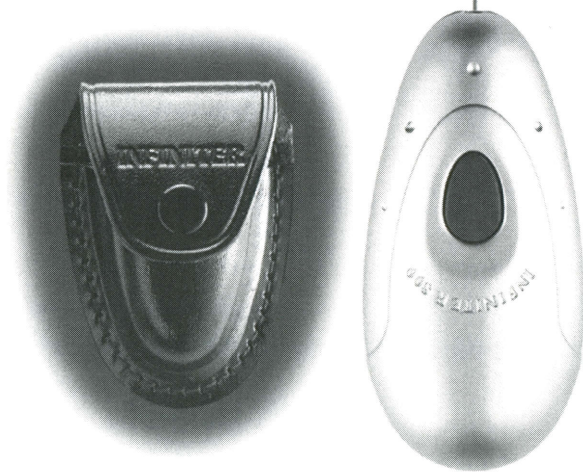


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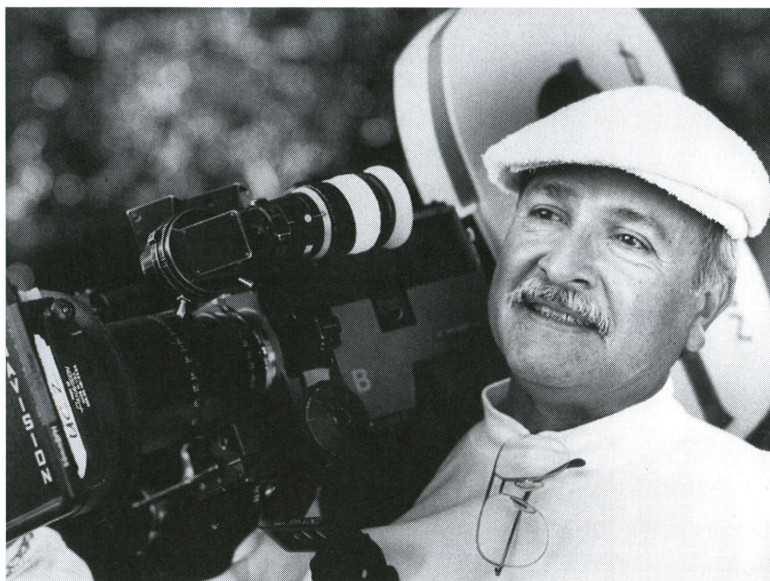
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In Memoriam



The world of cinematography lost one of its leading lights when **John Alonzo, ASC** died on March 13.

A veteran cinematographer responsible for the photography on 66 motion-picture and television productions, Alonzo is most remembered for his Academy Award-nominated work on 1974's *Chinatown*, directed by Roman Polanski. "My very first picture in Hollywood brought me from New York," recalls ASC President Victor J. Kemper, "and I wound up at Paramount when John was shooting *Chinatown*. I was totally in awe of being on a Hollywood soundstage; I met John there, and we were good friends from then on. One thing he always did, in terms of the art of cinematography, was to handhold an inordinate number of shots on any project he'd do. John once said he did that because he felt that was how he could become part of the scene. He felt at one with the camera as he was composing the shot and capturing images. I think that's one reason why people called on John for jobs."

Alonzo's handheld camera work was strikingly in evidence in Martin Ritt's *Norma Rae* (1979), for which Sally Field

won an Academy Award for Best Actress. Alonzo used very little light and no generator while filming with a hand-held camera, and the result was film with a documentary flavor. Ritt and Alonzo had a strong and fruitful working relationship. The cameraman professed "tremendous love" for the director and shot seven features for him, including *Souder* (1972), *Pete 'n' Tillie* (1972), *Conrack* (1974), *Casey's Shadow* (1978), *Back Roads* (1981) and *Cross Creek* (1983).

Alonzo's first work as director of photography was for a series of National Geographic specials in 1964. Thanks to his documentary experience, he could work very quickly behind the camera, an ability that served him well while he was shooting his first feature, *Bloody Mama* (1974), for low-budget producer Roger Corman.

Born in Dallas, Texas, in 1934, Alonzo became interested in photography and the dramatic arts in high school. After graduation he landed a job at WFAA-TV, the NBC affiliate in Dallas. During a station strike, Alonzo persuaded the station manager to allow him to man the camera, and he eventually directed

local and regional shows for the station.

Along with a philosophical puppet of his creation named "Señor Turtle," Alonzo made his way to Los Angeles in 1956 for a 26-week run of his puppet show on KHJ-TV. Supplementing his income by photographing stills of actors, Alonzo also got bit parts as "banditos" and peasants in films such as *The Magnificent Seven* (1960). He never objected to portraying such roles, pointing out his Latin heritage and the fact that he'd spent the first nine years of his life in Guadalajara, Mexico, before his family moved to Texas.

Alonzo was the first Mexican-American director of photography admitted to Local 659 of the International Alliance of Theatrical and Stage Employees, as well as the first admitted to the ASC. His heritage came in handy while filming Brian De Palma's 1983 remake of *Scarface*, when actor Al Pacino asked the cameraman to address him only in Spanish to help him get into character.

Alonzo's other feature credits include *Harold and Maude* (1971), *Lady Sings the Blues* (1972), *Black Sunday* (1977), *Steel Magnolias* (1989) and *Star Trek: Generations* (1994). He also enjoyed a career as a director, beginning with the feature *FM* (1978) and continuing with four telefilms.

"When you look at his credits," says Richard Crudo, ASC, "you see that he made every kind of picture — Westerns, comedies, dramas, love stories and science fiction. With such a varied career, he did all of the genres very well." Crudo is one of several cinematographers whose entry into the ASC was sponsored by Alonzo. "When I visited John on the set, he was always very calm. You could see that everybody there had great respect for him and that they really loved him. Everybody loved him."

— Ray Zone

In Memoriam



Academy Award-nominated director of photography **Ralf D. Bode, ASC** died on February 27 at the age of 59.

Born on March 31, 1941, in Berlin, West Germany, Bode was raised in Bavaria until the age of 13, when his family emigrated to Vermont. He earned a bachelor's degree in theater from the University of Vermont in 1962, and acted in Off Broadway productions of *A Man's A Man* and *Best Foot Forward*. He also studied directing at the Yale School of Drama. In 1966, he was inducted into the U.S. Army, and he studied and taught motion-picture photography at Fort

Monmouth, New Jersey.

Following his stint in the army, Bode moved to New York City and began working his way through the lighting ranks as an electrician, gaffer and lighting director. His first job as a director of photography was the 1972 film *The Stoolie* for director John Avildsen. Bode served as Avildsen's cinematographer again on *Slow Dancing in the City*, and for the Philadelphia sequences of the 1976 award-winning film *Rocky*, which include star Sylvester Stallone's famous, triumphant run up the steps of the Museum of Art.

In 1978, Bode captured the essence of the late 1970s disco movement in director John Badham's *Saturday Night Fever*, which elevated John Travolta to star status. The cinematographer worked on a variety of productions with other prominent directors, including Michael Apter, Robert Young (*Rich Kids*), Brian De Palma (*Dressed to Kill*), Jack Fisk (*Raggedy Man*), Jonathan Kaplan (*The Accused*), Joel Schumacher (*Cousins*), John Hughes (*Uncle Buck*) and

Michael Ritchie (*A Simple Wish*). He shot five features for Apter, including *Coal Miner's Daughter* (which earned Bode an Oscar nomination for Best Cinematography in 1980), *Gorky Park*, *First Born*, *Bring On The Night* and *Critical Condition*. Some of his other credits are *Leaving Normal*, *Made in America*, *One Good Cop* and *Don Juan Demarco*. He also earned Emmy Award nominations for the telefilms *Gypsy* and *Annie*.

After spending many years on the East Coast, Bode moved to Los Angeles in 1993 where he continued his prolific career. Last year, he taught cinematography at the new Los Angeles Film School, which has since named its annual student award for cinematography in his honor.

Bode is survived by his wife Christine; his sons from a previous marriage, Paul and Max; and his brother Peer. The family requests that donations be made to the City of Hope's West Los Angeles Cancer Center, Attn. Jennifer Johnson, 1500 E. Duarte Road, Duarte, CA, 91010.

— Douglas Bankston



Vincent Saizis, ASC, a respected specialist in location cinematography, died on February 17 at his home in Hoover, Alabama, at the age of 80.

Born in Birmingham, Alabama, on May 24, 1920, Saizis and his older brother Ted Saizis, ASC formed a cinematography team that thrived in difficult situations. To take on their various projects, the duo created a Birmingham-based, fully equipped mobile unit with their own crew and gear. They once said their performance in "the difficult field of

industrial and documentary films is our highest reference.... Time and time again we are called upon to produce and record on film, under adverse conditions, the workings of the industry."

The Saizis brothers both joined the ASC in 1972. The team tackled challenging action sequences such as car chases and shootouts in Texas for *Bonnie and Clyde* (for director of photography Burnett Guffey, ASC), and rigorous combat sequences in Georgia on *The Green Berets* (shot by Winton C. Hoch, ASC). The latter film's director/star, John Wayne, was so impressed with the brothers' work that he deemed them "most competent and ingenious down here in some adverse conditions. They are great for the morale of the troupe, never complaining and always alert. I really can't say enough for them. I'm sure the whole company feels the same way."

The brothers also filmed challenging stunts on the second unit for *The*

Flim-Flam Man, and camped at the bottom of the Grand Canyon for over a month while filming *Brightly of Grand Canyon*. The television special *A Christmas Memory*, which they photographed, was an Emmy winner.

In addition to numerous industrial and documentary films, Vincent and Ted Saizis lent their award-winning talents to features such as *The Hellfighters*, *The Learning Tree*, *In Like Flint*, *Bayou*, *Intimacy*, *The Delta Factor*, *Skullduggery*, *Force of the Wind* and *Black Fury*. After they retired from the industry, Vincent ventured into the restaurant business with his family. Ted died on April 13, 1999, at the age of 83.

Vincent Saizis is survived by his wife Josephine, daughter Angel Saizis-Sarris, grandchildren Vincent and Frankie Sarris, and great-grandchildren Tonie-Marie, Zachary and Angel. Private services were held in Birmingham.

— Douglas Bankston

From the Clubhouse



Sobocinski Dies

The cinematography world unexpectedly lost a great talent when director of photography Piotr Sobocinski fell ill and died in his sleep on March 26 in Vancouver, British Columbia, at the age of 43. The Academy Award-nominated cameraman, who was the son of the great Polish cinematographer Witold Sobocinski, was one week into the shooting of director Luis Mandoki's *24 Hours*.

Born on February 3, 1958, in Lodz, Poland, Sobocinski first gained fame in the United States for his cinematography on parts of director Krzysztof Kieslowski's 10-segment series *The Decalogue*. His photography on *Three Colors: Red* earned him an Oscar nomination for cinematography in 1994. He also worked on such films as *Ransom*, *Marvin's Room* and *Twilight*.

Sobocinski had recently completed *Hearts in Atlantis* for director Scott Hicks and *Angel Eyes*, another collaboration with Mandoki. *AC* will feature in-depth coverage of his work on *Angel Eyes* in next month's issue.

Sobocinski is survived by his parents; his wife, Hanka; and three children, Marya, Piotr Jr. and Michel.

Large-Format Honor

Veteran large-format cinematographer **Reed Smoot, ASC** has been chosen to receive the Kodak Vision Award in conjunction with the LFCA Board of Directors for his excellent work in LF filmmaking. The award will be presented at the LFCA 2001 Conference and Large-Format Film Festival, which will be hosted by the California Science Center May 16-18. Smoot, who is considered an expert in 70mm 15-perf equipment, was the lead cinematographer on *Imax's China: The Panda Adventure*, which is scheduled for release this summer. He also photographed the recently wrapped *The Human Body* and a project featuring renowned behavioral scientist Jane Goodall. He also was the director of photography for *Shackleton's*

Antarctic Adventure and co-cinematographer with John C. Hora, ASC on the 3-D film *Cirque du Soleil: Journey of Man* (see *AC* Sept. '00).

Comments Beverly Pasterczyk of Eastman Kodak, "His drive to expand the realm of large-format filmmaking and his willingness to share creative ideas have made him an inspiration to film students and professionals for years."

Dinner Goodies

The March dinner meeting at the ASC Clubhouse combined some delicious eats with tasty technological innovations.

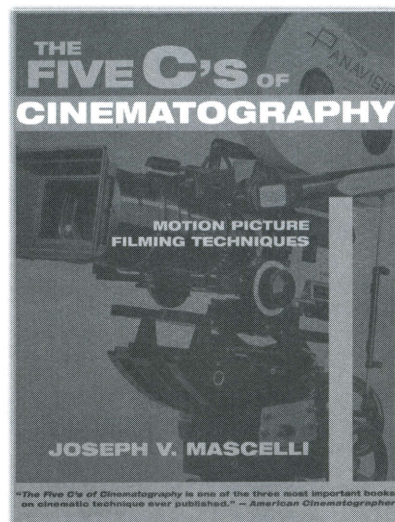
Richard Crudo, ASC gave a practical demonstration of the compact, versatile Arri LocPro 35 projector, which he recently used to convenient effect on the Disney/Spyglass feature *Out Cold*, shot 300 miles from the nearest screening room in Canada (see New Products, Feb. '01).

For dessert, members were treated to clips that had been transferred to film on the new Arrilaser (see New Products, July '00). Bill Russell and Richard Antley of Arriflex and Sam Nicholson of Stargate demonstrated some of the creative choices available to the users of the digital-to-film printer.

Attention Linksters

Polish those clubs and break out the practice balls in preparation for the 18th Annual ASC Golf Classic, which is set for June 4. Open to all ASC members, associate members and guests playing in foursomes, the competition will once again be held at Brookside Golf Course next to the Rose Bowl in Pasadena. That special \$10,000 "hole-in-one" prize is still up for grabs, too, and a hearty lunch will be served. There are openings for only 120 players, so make those reservations early.

For more information, contact Patty Armacost at the ASC, (323) 969-4333.



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by Joseph V. Mascelli

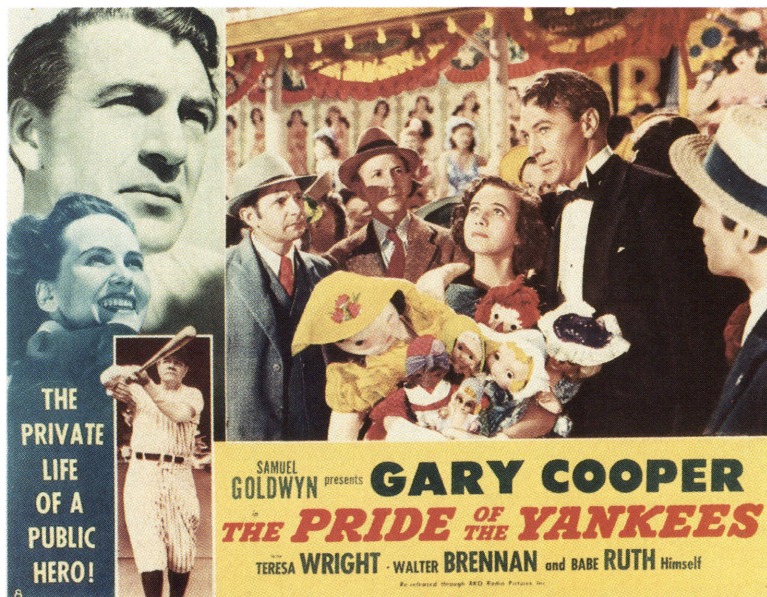
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WRAP SHOT

The Pride of the Yankees depicted the all-too-short life of baseball great Lou Gehrig and was released in 1942, one year after his death. At the time, it was the most lucrative film Samuel Goldwyn had ever produced.



In 1941, when story editor Niven Busch suggested to Samuel Goldwyn that he make a picture about baseball great Lou Gehrig, the independent producer initially declined; after all, Gehrig had just died. Undaunted, Busch screened some Fox Movietone newsreels of Lou Gehrig Appreciation Day at Yankee Stadium for Goldwyn, and when the lights came up in the screening room, the producer was weeping. Goldwyn purchased the rights to the story from Gehrig's widow Eleanor, and began arranging onscreen appearances by Babe Ruth and other New York Yankee ballplayers.

Paul Gallico was assigned to write the story for the film, *The Pride of the Yankees*, which depicted Gehrig's childhood with immigrant parents, his education at Columbia University and his signing with the Yankees. The core of the film was the love story between the shy Gehrig and a young Chicago sophisticate named Eleanor Twitchell. Jo Swerling and Herman Mankiewicz crafted a screenplay that the *New York Times* would later call "a real saga of American life."

First baseman Gehrig was known as the "Iron Man" for playing a then-

record 2,130 consecutive games between 1925 and 1939 (a major-league mark that remained unbroken until Baltimore Orioles shortstop Cal Ripken, Jr. surpassed it on September 6, 1995). In 1927, the year Babe Ruth hit 60 home runs, Gehrig clouted 47. Gehrig subsequently played in every game for more than 13 years, despite injuries that included a broken thumb, broken toes and more than 17 fractures in his hands. He led the American League in home runs three times. Amyotrophic Lateral Sclerosis (ALS), today known as Lou Gehrig's Disease, struck Gehrig down in 1941 at the age of 37.

On July 4, 1939, the "Iron Man" appeared one last time at Yankee Stadium to bid farewell to his public. "People all say that I've had a bad break," Gehrig concluded, "but today I consider myself the luckiest man on the face of the earth." Gehrig was inducted into the Baseball Hall of Fame in 1939; the mandatory five-year waiting period was waived because of his illness. The Yankees also retired his number, 4.

Gary Cooper was under contract to Goldwyn and was perfectly cast to play Gehrig. He not only bore great physical resemblance to the ballplayer, but he

was also an ideal fit for Gehrig's bashful manner. The biggest problems with the casting were that Cooper had never held a baseball bat in his life — and he was right-handed. Gehrig was a southpaw, one of the most famous lefties in all of baseball. Cooper trained, but he just couldn't bat left-handed. Film editor Danny Mandell provided a clever remedy: Cooper would bat right-handed and run to third base instead of first. Costumers flipped the letters and numbers on the player's uniforms, and Mandell simply flipped the film over, creating the appearance of a southpaw running to first base.

To ensure that millions of women would want to see *The Pride of the Yankees*, its love story was always in the narrative foreground. Goldwyn also included a nightclub dance sequence, and the Gehrigs' favorite ballad, Irving Berlin's "Always," was woven throughout the film. The 1942 picture became a blockbuster, grossing more than \$3 million and earning Goldwyn more money than any film he had ever produced.

Shot in black-and-white by veteran cinematographer Rudolph Maté, ASC, the film makes striking use of light and shadow, particularly in the nightclub sequence. As with most baseball films, numerous montages depict sports action and the passage of time. For the conclusion of the film, newsreel footage of Gehrig Appreciation Day was cleverly integrated with new photography of Cooper. The last shot in the film, showing Gehrig from behind, walking back to the dugout, is actual newsreel footage.

The Pride of the Yankees was not the first film in which Babe Ruth had appeared — he had previously portrayed himself in *Heading Home* (1920), *Speedy* (1928) and several short films during the 1930s — but his large speaking role in *The Pride of the Yankees* lends great color and authenticity to one of the finest baseball films ever made.

— Ray Zone

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The L-608 redefines the standard for precise, multi-function exposure meters. It includes all of the features of the legendary Sekonic L-508, PLUS... digital display viewfinder, extended sensitivity range, custom calibration, advanced analyzing functions, cine mode and revolutionary digital radio flash triggering capabilities.

Zoom Spot with Digital Display



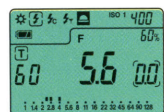
Rectangular 1°- 4° zoom spot viewfinder with vivid EL (electro luminescent) display makes data such as shutter speed and aperture easy to read, even in bright conditions.

Optional Plug-in Radio Transmitter Module



Now you can trigger your flash units wirelessly from your L-608 meter. No more tripping over sync cords, or fumbling with PC connectors. Compatible with all PocketWizard Digital Radio Receivers, the L-608 can simultaneously trigger and measure your electronic flash units up to 100 feet away. And in "Quad Triggering" mode, up to 4 zones of lighting can be individually triggered and measured by the Sekonic L-608 exposure meter.

Analyzing Function



Simultaneous reading of flash and ambient light is analyzed and displayed 3 convenient ways:

- Combined readings of flash and ambient
- Percentage of flash in the total exposure
- Simultaneous display of flash, ambient and combined readings on the analog scale

EVERYTHING YOU EXPECT IN AN EXPOSURE METER AND MORE.

Special BONUS Direct from Sekonic



Purchase a Sekonic **Radio Transmitter Module** for **\$25**, a **\$90 Value**, when you purchase a Sekonic **L-608 Super Zoom Master** Meter.

Must be purchased from an authorized dealer in the U.S.A.
1 Radio Transmitter Module per Meter



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